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ABSTRACT

This guide is a collection of ideas for mathematics activities which were assembled and tested by primary teachers. Activities are correlated to a mathematics curriculum for ages 7-9 years. The activities supplement the teaching of basic numeracy and include topics such as the language of mathematics, matching numbers, tracing the numbers, number bonds, number rhymes, number patterns, measurement, weight, money, shapes, and time. Each section of the core curriculum outline is accompanied by one or more activities. Worksheets for each activity are also provided. (DDR)

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Lower School Maths: Lesson Plans & Activities for Ages 7 - 9 Years

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LOWER SCHOOL MATHS

LESSON PLANS AND ACTIVITIES

Based on Infant 2 Curriculum

(Curriculum Statements Included)

ACKNOWLEDGEMENTS

VSO would like to extend their appreciation and gratitude to the following people who have made this series of publications possible:

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THE LANGUAGE OF MATHS 5

MATHS WORDS 6

CLASSIFYING 7

MATCHING AND INTRODUCING NUMBERS 10

TRACE THE NUMBERS FROM 1 TO 12 11

THE NUMBER 1 * 11

THE NUMBER 2 ** 12

THE NUMBER 3 *** 13

THE NUMBER 4 **** 14

THE NUMBER 5 ***** 15

NUMBERS TO 5 16

ORDER 17

CORE CURRICULUM OUTLINE 19

NUMBER BONDS 20

DOUBLES ADDITION 20

ARRANGING NUMBERS TO 50 21

COMPLETE THE NUMBER LINES 22

MISSING NUMBERS 23

NUMBER JUMBLE 24

DOT TO DOT 26

NUMBER RHYMES 27

SKIP COUNTING 27

TENS AND ONES 28

WRITE THE NUMERAL 30

CORE CURRICULUM OUTLINE 32

ADDITION AND SUBTRACTION 33

NUMBER SPIDERS 34

ADDITIONS 34

WORD PROBLEMS 43

NUMBER PATTERNS 44

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ADDER BINGO 48
SUBTRACT 50
SUBTRACTION FROM ADDITION 51
MULTIPLICATION AND DIVISION 55
TABLE SQUARES 56
NUMBER SQUARE PATTERNS 57
MULTIPLICATION MAPPING 59
NUMBER 60
CORE CURRICULUM OUTLINE 61
PRACTICAL MEASUREMENT ACTIVITIES 62
MEASURING UNITS 63
CAPACITY 64
WEIGHT 65
CORE CURRICULUM OUTLINE 66
MONEY 67
CORE CURRICULUM OUTLINE 67
TIME 68
TIME WORDS 70
CORE CURRICULUM OUTLINE 71
SHAPES 72
SHAPES (1) 73
SHAPES (2) 74
Shape Activity Shapes(3) 76
Shapes (4) 77
Shapes (5) 78
Shapes (6) 79
Shapes (7) 80
Shapes (8) 81
Shapes (9) : "Odd one out" 82
Shapes (10) 83
Shape Game Shapes(11) 84
CORE CURRICULUM OUTLINE 85
GRAPHS 85
CORE CURRICULUM OUTLINE 87
INTRODUCING FRACTIONS 88
FRACTIONS 89

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Infants and Lower Juniors

When a child enters primary school (s)he may have little knowledge of mathematical concepts. Pupils may be able to recite the numerals in order (1, 2, 3, etc.) but this may be a result of learning by rote - the same student may not be able to say how many items are in a group because they have not learnt to count.

Writing may well be a problem - it is important that pupils develop the ability to write legibly and correctly - there is no point being able to add or count if the child cannot form the numerals correctly.

Pupils need to learn the jargon of maths - the signs : +, -, x, ÷ etc. and the words : add, subtract, etc. Words of comparison (more, less etc.), position (front, on etc.) and description (big, square, etc.) all have to be mastered.

With these essential basics the child can progress to working with numbers, time, money, fractions etc.

The activities in this booklet are based on the Infant 2 Curriculum, St. Vincent and the Grenadines, but many of them can be used and modified for other primary school classes.

It is hoped that the exercises in this booklet will enable teachers to introduce a variety of activities into their Maths lessons. In compiling the booklet it was assumed that some basic skills have been taught and that teaching are looking for additional exercises to supplement their more formal teaching. Curriculum statements, lesson plans, further ideas and activity sheets are included. Many of the activities have been used at Rose Hall Government School, North Leeward, St.Vincent by Bertram Stapleton, Infant 2 teacher and Jan Dingley VSO. They would like to thank the Principal Mr. Hugh Wyllie for his co-operation and encouragement in the development of this booklet.

Thanks also to Mr. S. Jocelyn, Maths Teacher, Trounaca Ontario Secondary School for the typing, design, graphics and preparation of the booklet.

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Classifying
same as
match
different
big
small
circle
square
triangle

Sequencing
more - less
long - short
tall -
bigger - smaller
biggest - smallest
as long as
as tall as
shorter - heavier
empty - full
heavy - light
first - last
second, third, forth etc.

Spatial
in - not
inside - outside
high - low
up - down
on - under
above - below
forwards - backwards
in front of- behind
across
over
underneath
around
round
middle
near
beside
next to
between
through
on top of

Number
Some
none
each
every
enough
all
too many
not enough
as many as
less than
next
numbers (1-10)
first, second etc.

Time
morning
afternoon
evening
early - late
before - after
yesterday
today
tomorrow
night - day
days of week
months of year
birthday

These are just some of the words children need to master during their maths lessons. The next sheet gives a few ideas of ways in which these words can be introduced.

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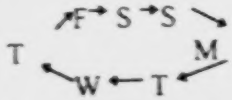
Some ideas for using "maths words"

1)	Longer / shorter	draw pairs of objects and write the words at the side e.g. shoes, feet, hands, fingers, pencils
2)	Taller / shorter	use people, plants, trees, cans, i.e. anything which stands upright. Draw and compare Find objects which are taller / shorter than yourself
3)	Thicker / Thinner	text books, vegetables, slices of bread Write your name in thick writing Write your name in thin writing
4)	Widest / Narrowest	ties, bottles Write objects in classroom {wider/narrower} than a door.
5)	Highest / lowest	birds in a tree aeroplane, bird, dog, diving board - people in a pool discuss the relative positions
6)	Before / after	use events in the day - attach labels e.g. go to school <u>after</u> I get up putting events in order e.g. days of the week.  The day before Monday is_____etc. repeat with months of year Today is _____ Tomorrow will be _____ If today is Friday yesterday was _____ Tomorrow will be ___
7)	Heavier/lighter	draw {see-saws/balances} and ask questions who/what is heaviest - Mary/Jim? Stone/brick?
8)	More /less	count objects; use 1 more, 1 less jug holds <u>more</u> <u>than</u> bottle →use different containers
9)	In / Out	going in and out of school taking things out / putting things in
10)	Day/Night	pictures of day- sun- light and night- dark, stars activities for day- night draw pictures and put them in order
11)	Up Down	up steps, down steps up the road, down the road look up at a tree, look down at the ground

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Classifying

Young children need to develop skills in matching and classifying objects. There are many ways in which this can be introduced:

1) Teacher holds up two fingers; children do the same

2) Teacher counts out 4 pebbles; children copy.

3) Use coloured objects - find as many coloured items as possible; teacher shows a red item, children find other items which are the same colour.

4) Make a set of cardboard shapes- squares, triangles, circles, etc. (they do not need to be the same shape [e.g. triangles] or size). Teacher shows a circle, children find a different circle

5) Use simple pictures and ask children to complete:
e.g. show an egg in an egg cup. Ask children to draw 3 more egg cups

Then ask the children to draw an egg in each egg cup. Repeat with : tail on a cat, smile on a face straw in a glass, roof on a house etc.

6) Collect sets of objects/pictures of animals, transport., coloured shapes then ask the children to classify these in as many ways as possible.
e.g. those with wheels, those which fly, red objects, circles ,
those which are alike/same, those which are different etc.

7) From (6) match items which go together e.g. cup and saucer, bat and ball, flowers and vase etc.

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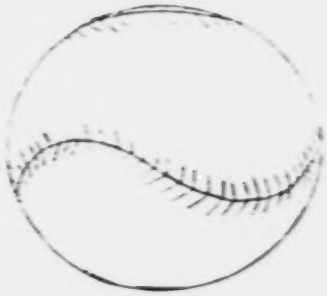
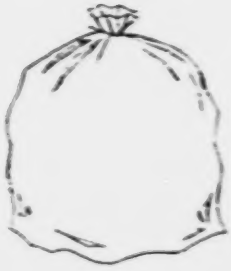
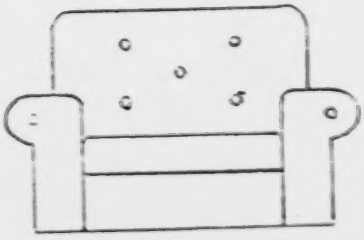
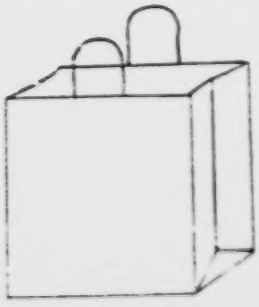
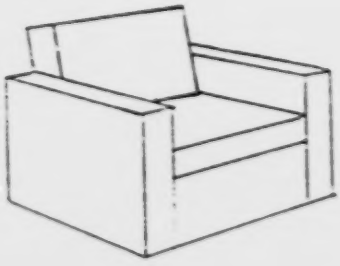
Pairing objects which are similar.
Draw on individual cards for matching and/or wall poster. OR Display actual items in the classroom.

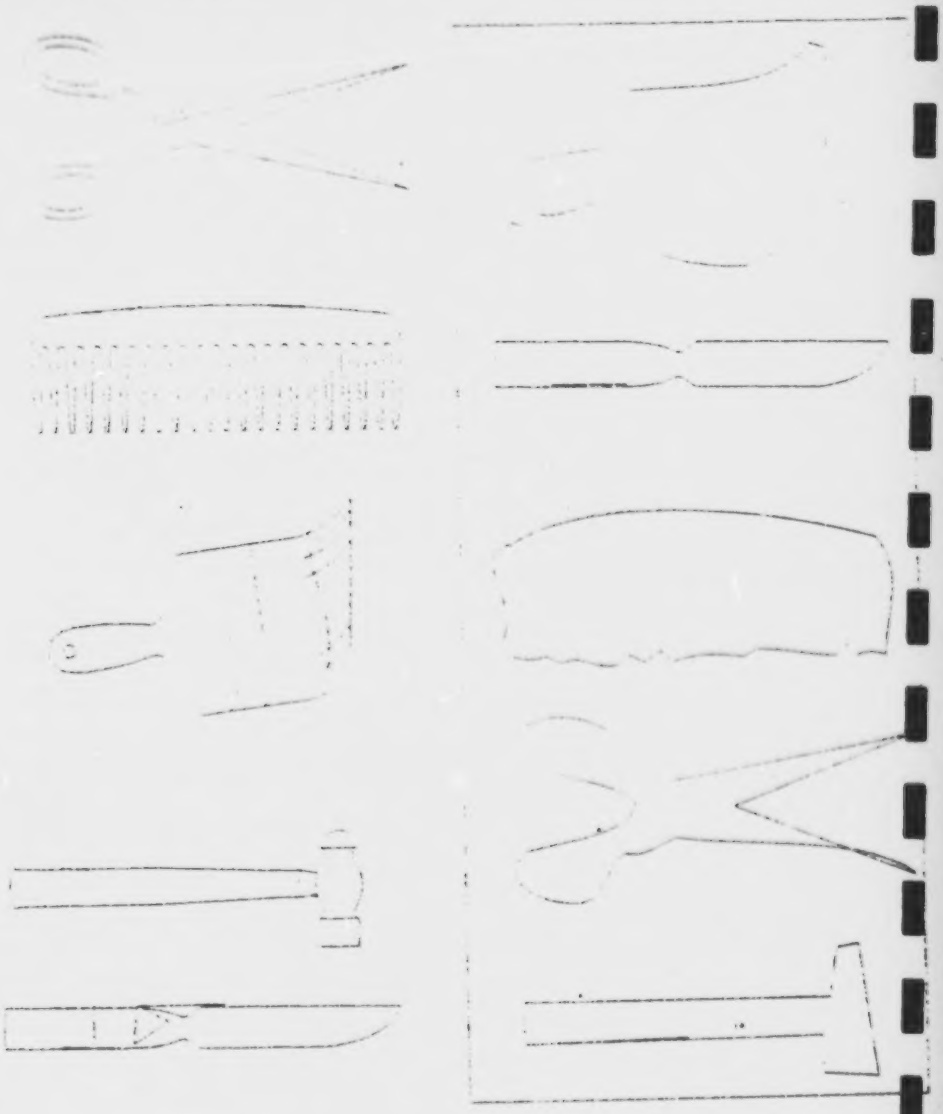
Match the objects in pairs:



Pupils match the item to its correct outline. These would be drawn on individual card for matching and/or on a large wall poster. Alternatively, display the items and drawings of their outlines.



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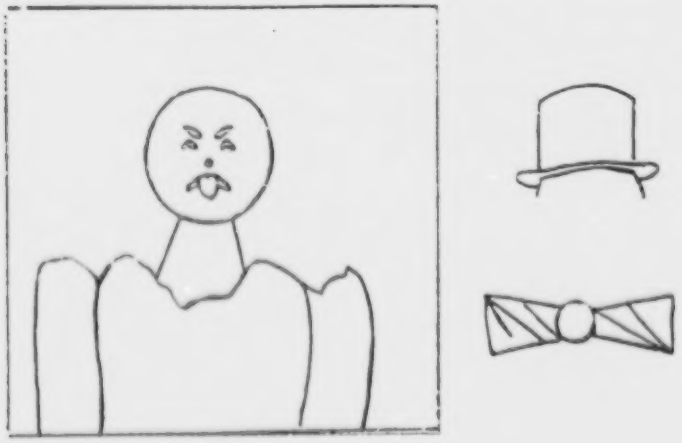
This activity may take some time to prepare (perhaps older pupils may help in their art lessons) but it is an interesting exercise which develops the concept of matching and introduces the concept of number.
Prepare individual cards showing a person - a clown for example. Cut out hats and ties to fit.



Give the cards out to the class and ask the children to match the hat and one tie to the clown.

Repeat this exercise by asking children to put one hat and one tie on one clown, then two hats, two ties and two clowns, three on three etc.
(You may need to let the children work in groups if resources are limited but make sure each child has a turn.)

This activity develops a child's understanding of number, matching one on one, etc.

NB. The cards should be used for addition and subtraction at a later date e.g. add 2 hats and 1 hat, how many altogether?

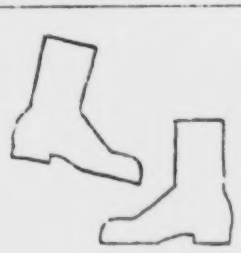
Trace the numbers from 1 to 12

Start at

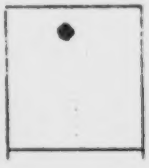
The Number 1 ✱

Write 1. Start on the dot.

Colour 1 red.



Draw plates
Draw one plum on each plate



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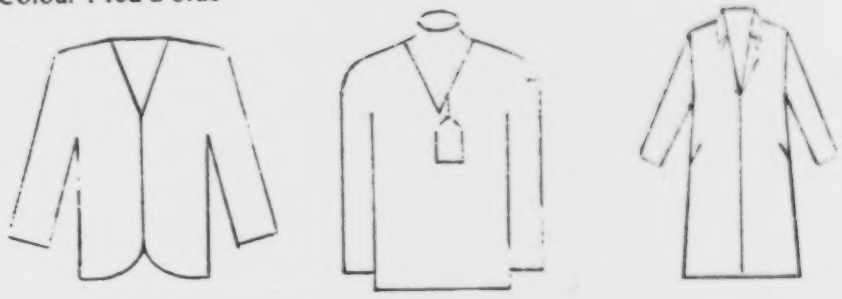
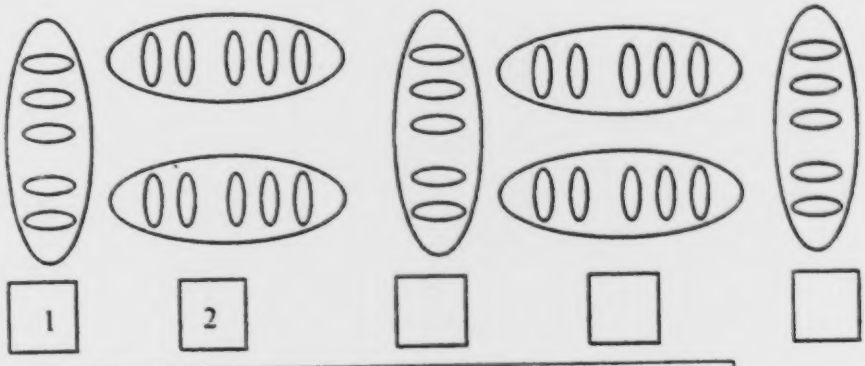
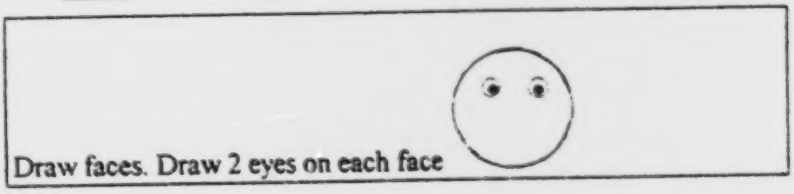
Write 1 and 2. Start on the dot.

Colour 1 red 2 blue



Count.





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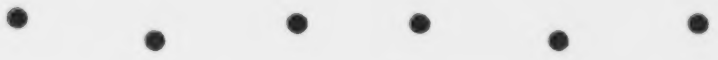
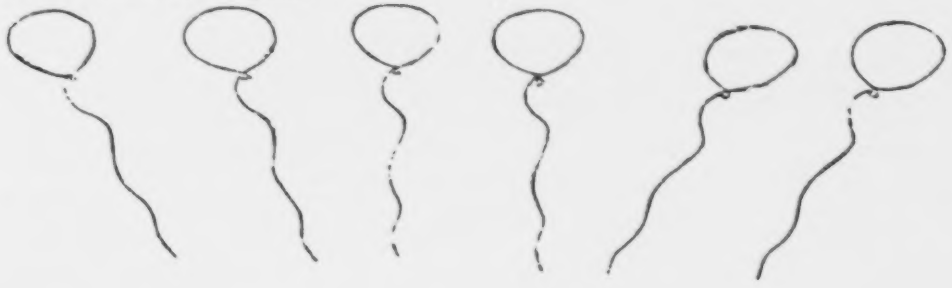
The Number 3 ***

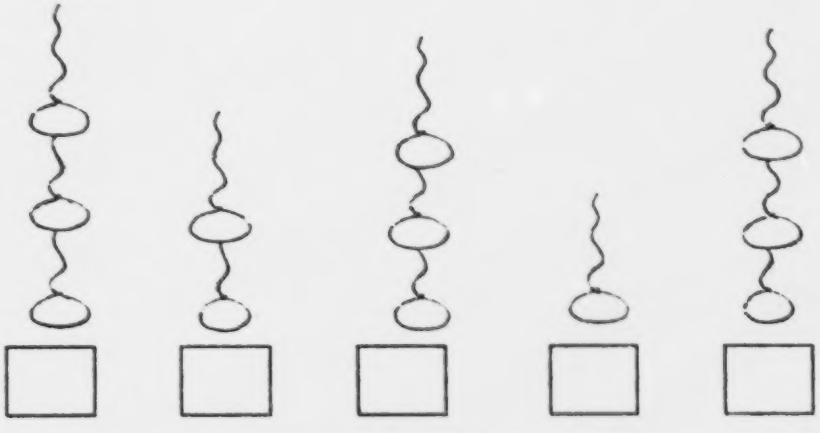
Write 1 2 3. Start at the dot.



Colour 1 red 2 blue 3 green.



Count.

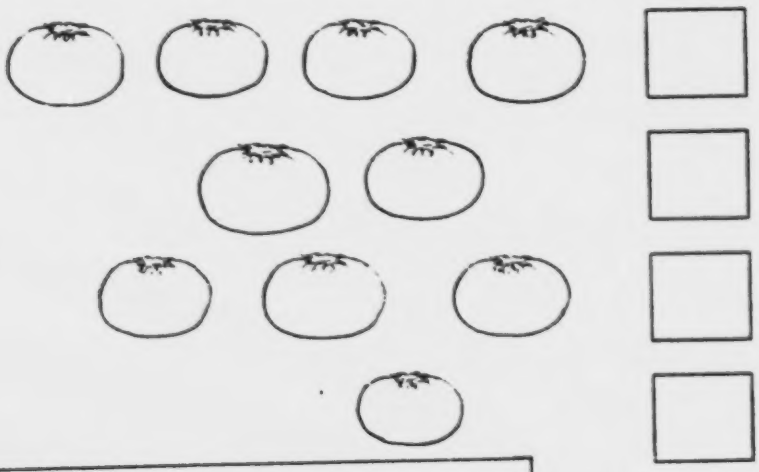


Draw buns. Draw 3 currants on each bun.

Write 1 2 3 4. Start on the dot.

Colour 2 blue and 4 yellow.

Count.



Draw buttons. Draw 4 holes in each button.

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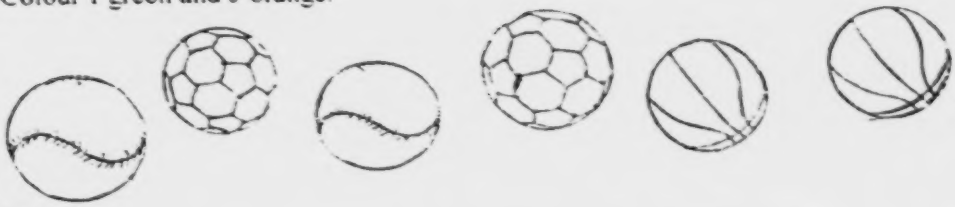
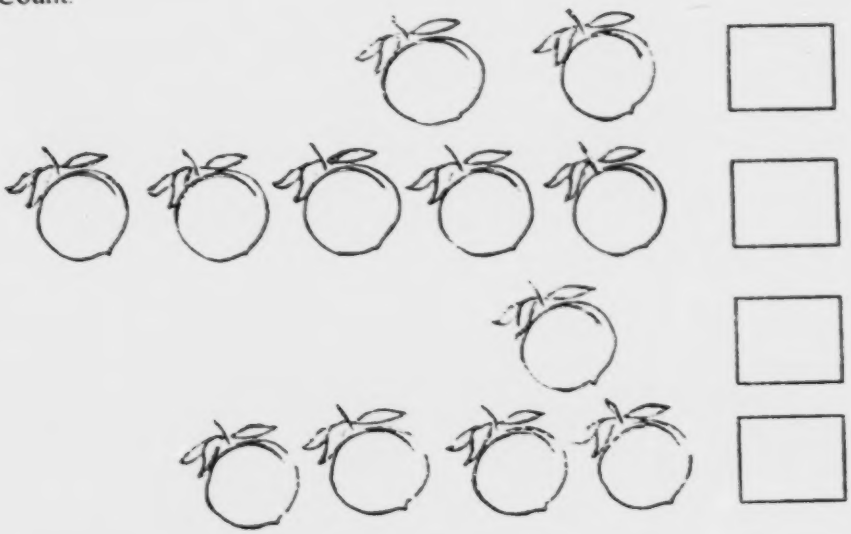
The Number 5 ★★★★★

Write. Start on the dot.

Colour 1 green and 5 orange.



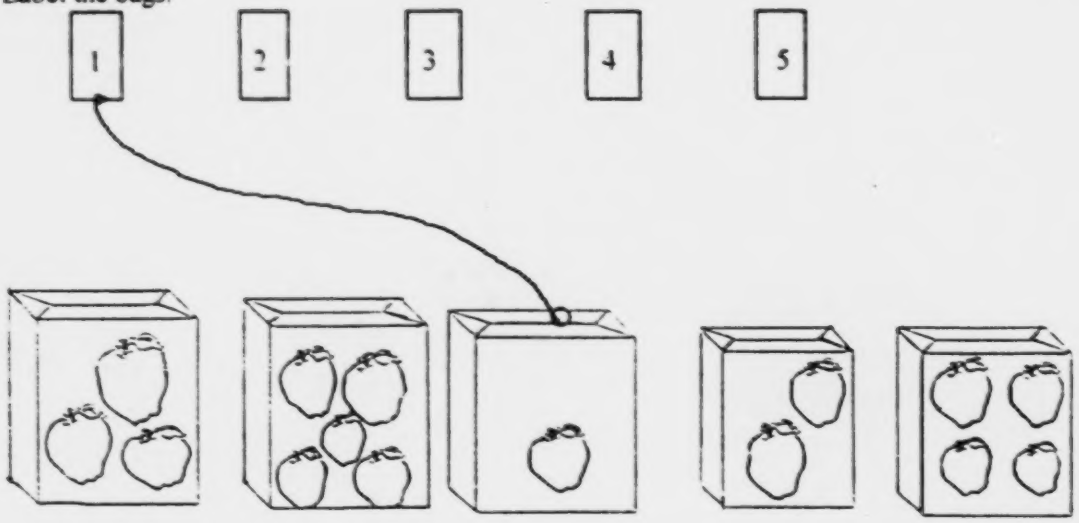
Count.



Draw boxes. Draw 5 pencils in each box.

Numbers to 5

Label the bags.



Draw straws.

Practice writing 1 2 3 4 5.
Draw balls to match the numbers.

Order

Write the number which comes **after.**

3		1		4	
0		2			

Write the number which comes **before.**

	4		2		1
	3		5		

Write the number which comes **between.**

1		3	3		5
5		3	2		0
0		2	4		2

Throw a dice. Write the numbers which come before and after. Do this 6 times.

Order

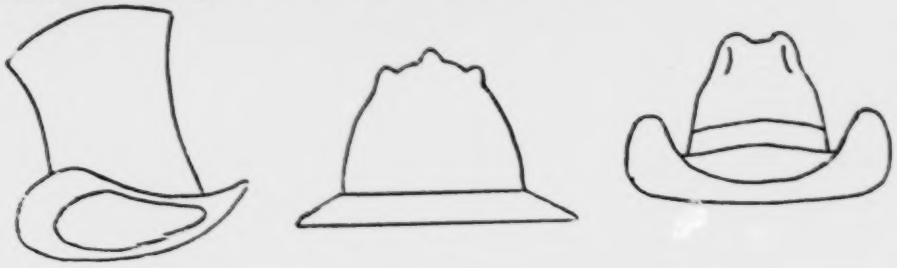
Copy the numbers and the names.

1 _____ one _____	0 _____ zero _____	3 _____ three _____
5 _____ five _____	2 _____ two _____	4 _____ four _____

Write the numbers in order. Start at zero.

0 _____

Colour the 1st green, the 2nd blue, the 3rd red.



Draw three people standing at a bus stop.
Write 1st, 2nd, 3rd.

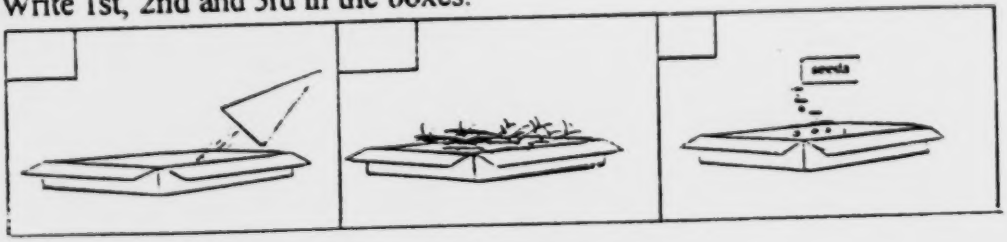
Order

Copy the numbers and the names.

8 _____ eight _____	6 _____ six _____	10 _____ ten _____
9 _____ nine _____	7 _____ seven _____	5 _____ five _____

Write the numbers 0 to 10 in order.

Which picture comes first, second and third?
Write 1st, 2nd and 3rd in the boxes.



Draw 5 boxes in a row.
Colour the first box yellow, the second box orange, the third box red.

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St.Vincent and the Grenadines
Mathematics

Core Curriculum Outline
6 - 7 Year Olds

1.0 Number Concepts (term 1)

1.1 Counting
1.1.1 Count the elements of a set up to 50
1.1.2 Arrange numbers up to 50 in sequential order
1.1.3 Identify and write numerals up to 50
1.1.4 Skip count in 2's, 5's and 10's up to 100
1.1.5 Recognise the patterns used in skip counting
1.1.6 Supply missing numbers in skip counting series
1.1.7 Read and write ordinals up to 31st

1.2 Place value

1.2.1 Read and write numbers up to 50
1.2.2 Write names of two digit numbers up to 30
1.2.3 Use 0 as a place holder

1.3 Expanded Notation

1.3.1 Write two digit numbers in expanded notation (up to 50)

1.0 Number Concepts (Term 2 and 3)

1.1 Counting (Term 2 and 3)

1.1.1 Count the elements of a set up to 100
1.1.2 Arrange numbers up to 99 in sequential order
1.1.3 As term 1 (1.1.4)
1.1.4 As term 1 (1.1.5)
1.1.5 As term 1 (1.1.6)
1.1.6 As term 1 (1.1.7)

1.2 Place Value (Terms 2 and 3)
1.2.1 As term 1 (1.2.1) up to 99
1.2.2 As term 1 (1.2.2) up to 30 (up to 99 in term 3)
1.2.3 As term 1 (1.2.3)
1.2.4 Write 2 digit numbers as tens and ones (term 3)

1.3 Expanded Notation

1.3.1 As term 1 (1.3.1) (term 2 - up to 60, term 3 - up to 99)

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(1) If you have already collected many objects or pictures from the earlier worksheets you already have a resource which can be used for classifying and counting.

Place all the objects on a table and ask the children to come and pick up objects which are the same and count how many they have of the same kind. (If you don't have many sets of objects supplement with stones, coins, beans, lentils, bottle tops etc.)

Extend this task by taking one or two items away and asking how many are left. return the items and ask how many altogether.

(2) A playground exercise

Draw a number on the playground e.g. 5, and ask 5 children to stand on that number. Draw a number 4 and a 1. Ask 4 children to move from the 5 to the 4 and the remaining child to move to the 1. Ask them to return to the 5 to show that 5 can be broken into 4 and 1 and that 4 plus 1 = 5. Repeat with other number bonds.

$$5 = 4 + 1$$

Doubles Addition

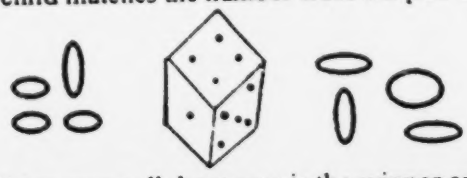
Resources

Dice, stones (pebbles, bottle tops, etc.)
Children work in pairs.

Activity

1) One child throws a dice and puts the correct number of stones in the middle of the desk.

2) Second child matches the number from his pile of stones.



3) First child to count all the stones is the winner and takes all the stones.

4) Continue until one child has lost all his stones. (or play for a suitable length of time and then see who has the most stones left.)

NB With young children you may want to use cards with only the numbers 1, 2, 3, instead of dice
Older children (or more able) could play in 3's or 4's - i.e. the totals are obviously larger.

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Arranging numbers to 50

Core Curriculum: 1 - Number concepts (1.1.1, 1.1.2, 1.1.3)

Age range: 12

Group size: Small groups of 3 - 4

Objectives:

To recognise numbers up to 50 and arrange them in sequential order.

Resources:

Jigsaw pack (Numbers 1 - 50)

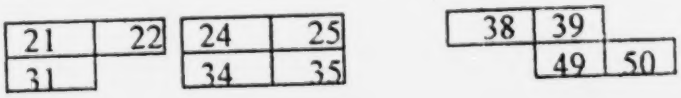
Previous Knowledge:

It is assumed that the children will be familiar with the numbers from 1 - 50 and have some experience of ordering/counting.

Task:

1) Each group is given a set of jigsaw pieces which need to be assembled into a grid showing the numbers 1 - 50.
The first two rows are 2 x 1 pieces which fit together to show the numbers 1 - 20 i.e.

The digits 21 - 50 are on different shaped pieces i.e.



This makes the task of ordering slightly more complicated.

2) Complete 'missing numbers' cards

Important Points:

1) Children's knowledge of the order of the digits will be tested and enhanced by building up the jigsaw.

2) Each jigsaw has a different pattern.

3) It may be useful to have a large number of grids available to help the weaker children

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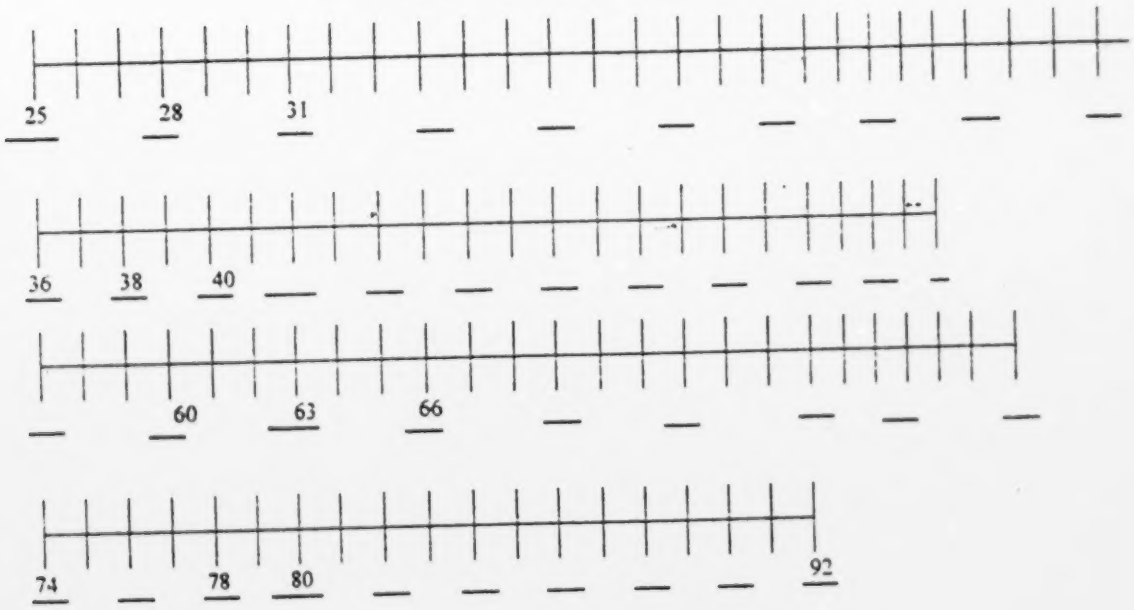
1) Copying the completed jigsaw gives children further practice at identifying and ordering numbers from 1 - 50.

2) Use jigsaw pieces with some squares left blank to make the ordering more difficult.

3) The jigsaw pieces could be used later to demonstrate tessellations - children draw round the different shapes to make patterns which tessellate.

4) The 'missing numbers' cards could be used for games of bingo e.g. simple addition, multiplication or even counting (in 1's, 2's, etc.)

Complete the number lines



MISSING NUMBERS

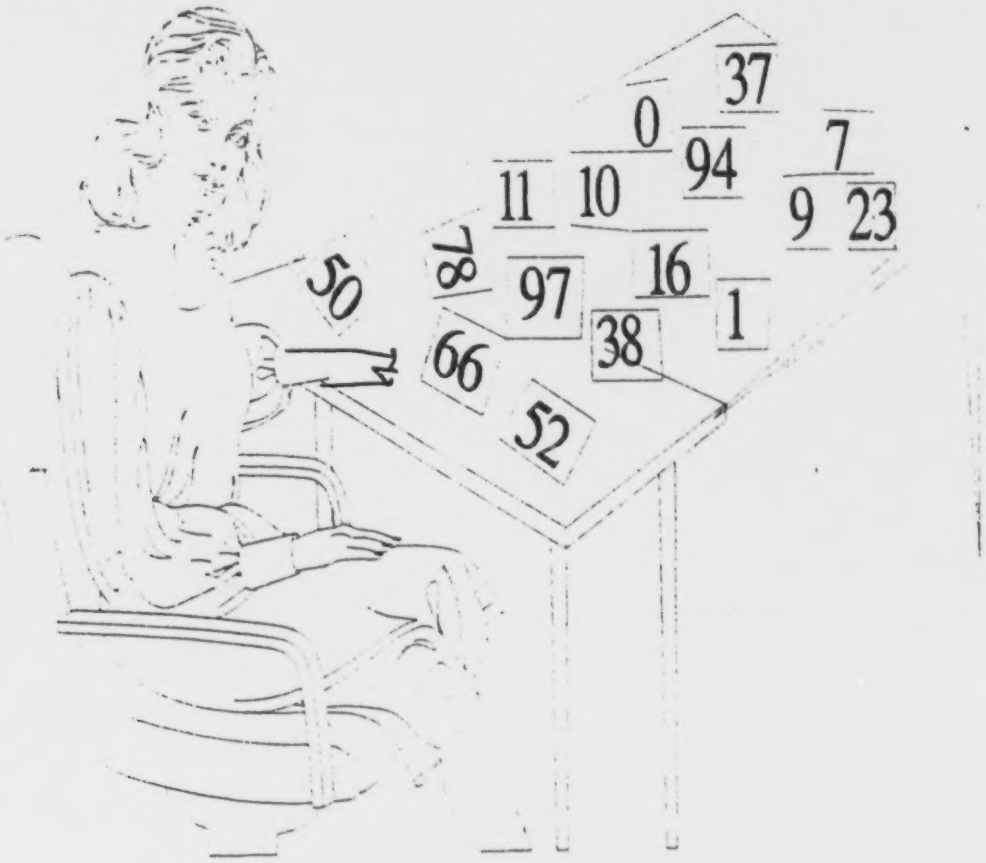
Write in the correct numbers.

1		3				7			
	12							19	
21			24						30

		23						29	
31				35					40
			44				48	49	

11				15					20
		23			26			29	
	32								40

These numbers are all in the wrong order. They need to be placed in the right order before Tina can play her game.



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Write the numbers in order from the smallest to the biggest. One of them has already been put in place for you.

Clues:

- Cross out the numbers as you use them to save you getting mixed up.
- Use a pencil and a rubber - it's easy to miss a number out first time around.

Can you make up your own game with the set of ordered numbers?

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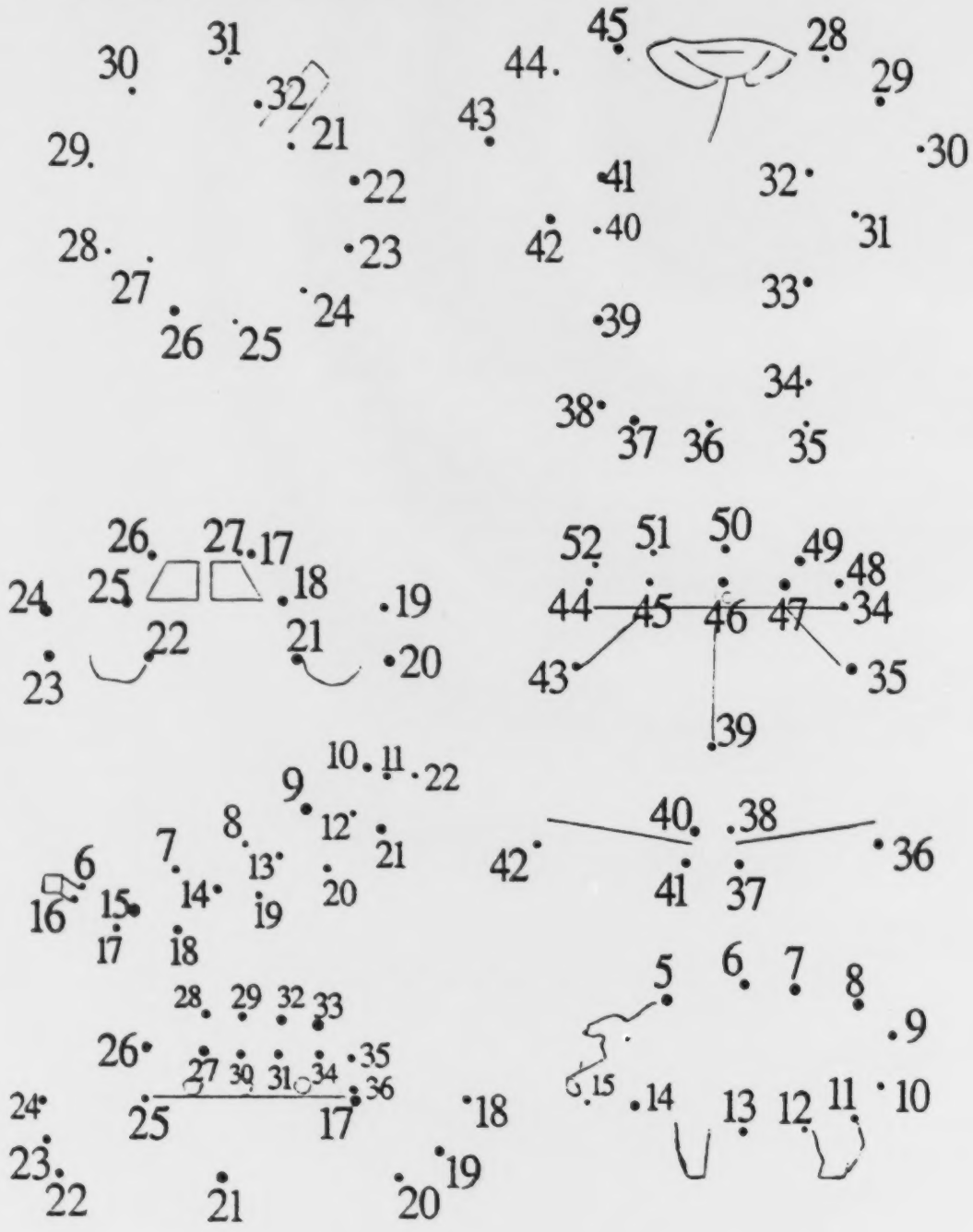
Children need to be given a duplicated sheet. They find the smallest number and then draw lines joining the other numbers in the correct order. Each group makes a picture of an object - colour and display on the classroom wall.



Number Rhymes

1) One little finger, tap, tap, tap (x3x)
Point to the ceiling, point to the floor
And put it in your lap (repeat with 2 little fingers etc.)

2) Hickory Dickory Duck, the mouse ran up the clock
The clock struck one, the mouse ran down
Hickory Dickory Duck.

3) This old man, he played one 2 - shoe
He played nick nack on my drum 3 - knee
Nick nack paddy wack, give a dog a bone 4 - door
This old man came rolling home.

4) Two little blackbirds sitting on a wall
One named Peter, one named Paul
Fly away Peter, fly away Paul
Come back Peter, come back Paul.

5) Three blind mice (x2) see how they run (x2)
They all run after the farmer's wife
Who cut off their tails with a carving knife
Did you ever see such a thing in your life
As three blind mice?

NB. As well as singing, let the children act out the songs (or do actions to them)

SKIP COUNTING

(A Class Game)

1) Ask everyone in the class to stand

2) Start with a number, e.g. 2, then each pupil in turn adds 2 to the last number called.

3) Anyone who makes a mistake sits down

4) The pupil left standing is the winner.

Repeat with other numbers.

Variation

Start with a large number and then each pupil subtracts a fixed number. As the total approaches zero repeat with another large number or start adding.

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Core Curriculum: 1.2 Place Value

Age Range: 12

Group Size: Individual

Objectives:

Recognise the value of tens and ones.

Resources:

Straws, sticks, cubes, etc. - any items which can be bundled into 10's.
Tens and Units sheet.

Previous Knowledge:

Recognise numbers up to and greater than 10.

Task:

1) Children are given a pile of straws, cubes, etc. They count out straws and bundle them into groups of 10.

2) Each bundle of 10 is placed in the 'tens' box on the sheet.

3) All singles left over are placed in the 'ones' box.

4) Children count the bundles of ten and are shown the number as:
24 = 2 tens and 4 ones = 20 + 4

5) Repeat (4) with different numbers.

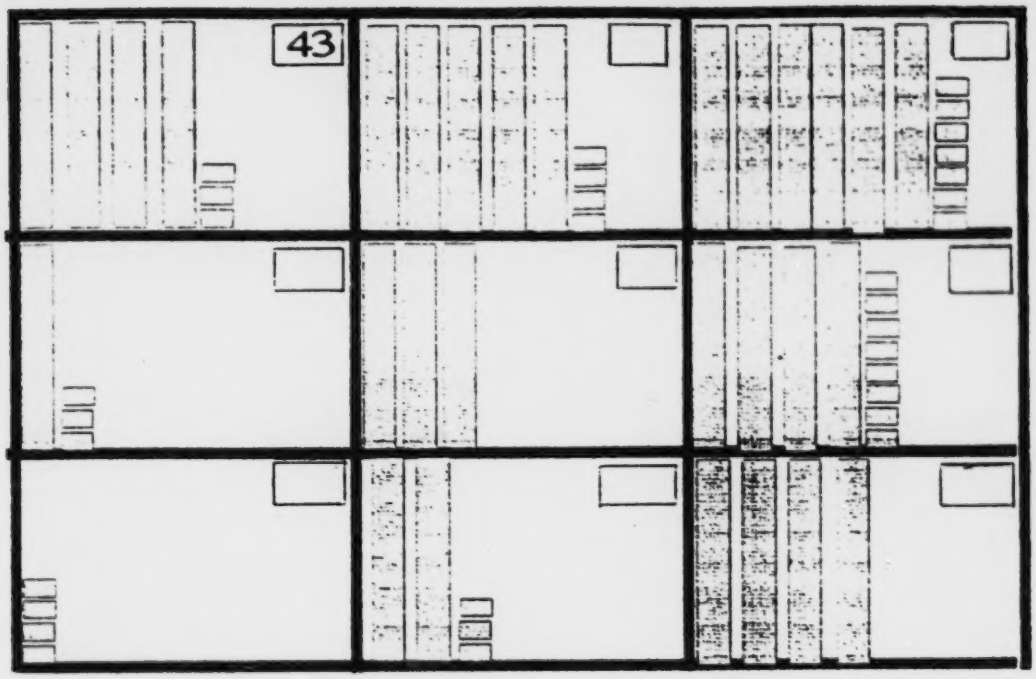
IMPORTANT POINTS:

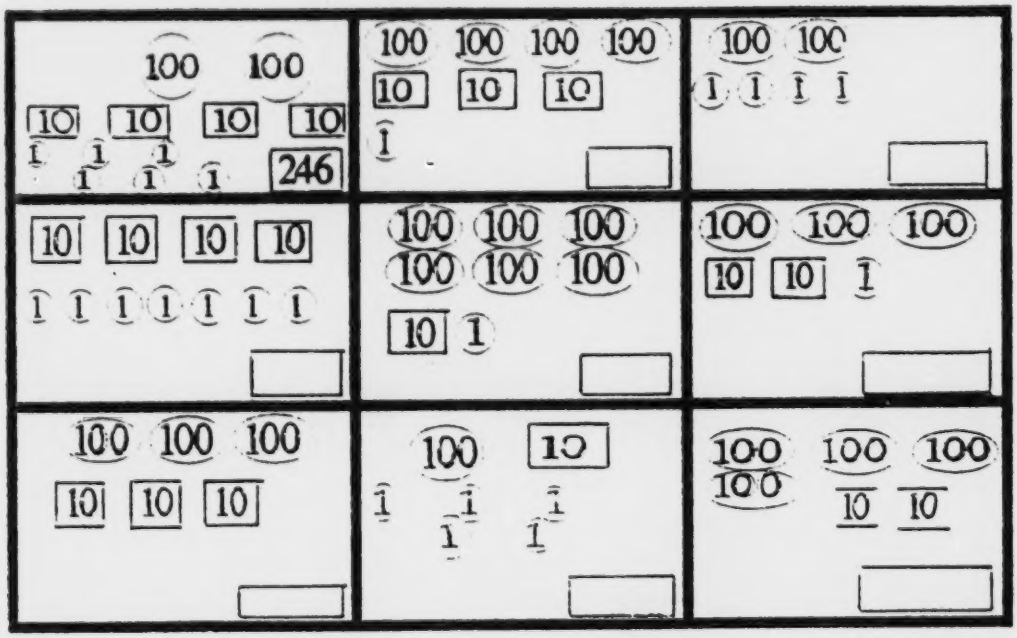
Use different materials e.g. straws, cubes to give an experience of handling a range of materials as well as the mathematical experience of working with tens and ones.

FURTHER ACTIVITY:

This practical work should lead naturally into a more theoretical approach to number work.

TENS	ONES





(These examples should not be attempted until children are competent at handling tens and ones)

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623 = 600 + 20 + 3	529 = ___ + ___ + ___
539 = ___ + ___ + ___	143 = ___ + ___ + ___
291 = ___ + ___ + ___	424 = ___ + ___ + ___
632 = ___ + ___ + ___	603 = ___ + ___ + ___
75 = ___ + ___ + ___	93 = ___ + ___ + ___
682 = ___ + ___ + ___	999 = ___ + ___ + ___
820 = ___ + ___ + ___	508 = ___ + ___ + ___
3 = ___ + ___ + ___	690 = ___ + ___ + ___
504 = ___ + ___ + ___	777 = ___ + ___ + ___
30 = ___ + ___ + ___	43 = ___ + ___ + ___
146 = ___ + ___ + ___	581 = ___ + ___ + ___
345 = ___ + ___ + ___	123 = ___ + ___ + ___

561 = 500 + 60 + 1	934 = 900 + 30 + 4
283 = ___ + ___ + ___	222 = ___ + ___ + ___
374 = ___ + ___ + ___	651 = ___ + ___ + ___
652 = ___ + ___ + ___	234 = ___ + ___ + ___
821 = ___ + ___ + ___	439 = ___ + ___ + ___
532 = ___ + ___ + ___	735 = ___ + ___ + ___
116 = ___ + ___ + ___	888 = ___ + ___ + ___
56 = ___ + 50 + 1	430 = ___ + ___ + ___
923 = ___ + ___ + ___	500 = ___ + ___ + ___
460 = ___ + ___ + ___	673 = ___ + ___ + ___
207 = ___ + ___ + ___	59 = ___ + ___ + ___
36 = ___ + ___ + ___	34 = ___ + ___ + ___
902 = ___ + ___ + ___	408 = ___ + ___ + ___
711 = ___ + ___ + ___	845 = ___ + ___ + ___

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Core Curriculum Outline
6 - 7 Year Olds

2.0 Operations

2.1 Addition

2.1.1 Add one digit numbers with sums not greater than 18.

2.1.2 Recognise number sentences when re-arranged e.g. 4 - 3 = 3 + 4

2.1.3. Combine different numerals to give specific number e.g. family of 12 is 6+6, 8+4, etc.

2.1.4. Add two digit numbers vertically without re-grouping.

2.1.5. Add two digit numbers without re-grouping (total not greater than 50) (Term 2 not >60, term 3 not >99).

2.2 Subtraction

2.2.1 Take away one or more objects from sets up to 18

2.2.2 Subtract a one digit number from a two digit number without re-grouping e.g.

$$\begin{array}{r} 26 \\ -\ 3 \\ \hline \end{array}$$

2.2.3. Subtract two digit numbers from two digit numbers (without re-grouping) (Term 2 with re-grouping)

2.2.4. Recognise various meanings of subtraction.

2.3 Multiplication (Term 2 and 3)

2.3.1. Build up multiplication as repeated addition

2.3.2. Build up multiplication tables up to 2 x 9

2.3.3. Term 3: work simple multiplication problems with 1-digit multiplicand and 1-digit multiplier.

2.4 Division (Term 3)

2.4.1 Partition sets into equal subsets e.g. 2 sets of 4
4 sets of 2

Use concrete objects.

2.4.2 Introduce the division sign.

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Addition and Subtraction

Core Curriculum: 2.1, 2.2 Addition and subtraction.

Age Range: 12

Group size: Individual/group depending on the activity

Objectives:

These are a series of number puzzles designed to give students plenty of experience in manipulating numbers using addition and subtraction. The exercises will develop their ability to think logically.

Resources:

Number grids, square paper, paper and pencil (depending on the activity.)

Previous Knowledge:

Some basic number work involving the rules of addition and subtraction of numbers less than 50.

Task:

Several sheets are attached which provide simple arithmetical problems which further test a child's ability to handle addition and subtraction.

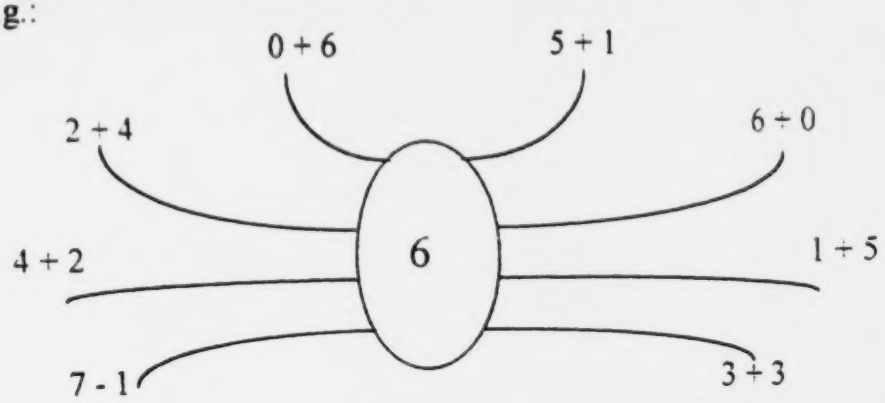
Important Points:

These exercises introduce young children to the concept of solving mathematical puzzles. Working together and exploring solutions gives children much more confidence in their mathematical ability than, for example, completing a page of sums which may have little meaning to them other than following the mechanical processes involved.

Further Activity:

The examples given can be extended, modified, simplified to suit the age and ability range of students in a particular class.

Draw the body and 8 legs.
Write a number in the body.
Find eight different sums which equal the "body number".
E.g.:



Additions

△	+	3	=	7			5	+	△	=	9			
○	+	4	=	8			1	+	□	+	□	=	7	
3	+	5	=	○	+	2	3	+	○	=	2	+	5	
2	+	8	=	4	+	□	2	+	5	=	△			
8	+	△	=	3	+	5	□	+	6	=	5	+	2	
4	+	○	=	8	+	4	○	+	20	=	40			
□	+	□	=	24			2	+	○	=	8	+	2	
8	+	5	=	6	+	△	○	+	1	=	+	6		
□	+	3	=	5	+	1	○	+	1	=	3	+	○	
□	+	3	=	7	+	□	7	+	○	=	5	+	○	
4	+	△	=	10	+	△	6	+	○	=	○			

Write the correct number in the box.

4	+	☐	=	7	☐	+	3	=	5	4	+	☐	=	9
5	+	☐	=	8	☐	+	1	=	6	2	+	☐	=	8
2	+	☐	=	3	☐	+	2	=	7	1	+	☐	=	5
4	+	☐	=	6	☐	+	4	=	8	7	+	☐	=	8
2	+	☐	=	2	☐	+	2	=	10	6	+	☐	=	8

					3	+		=	5	6	+		=	8
2	+		=	5	6	+		=	7	2	+		=	12
3	+		=	8	2	+	☐	=	2	4	+		=	25
6	+	☐	=	9	20	+	☐	=	40	7	+		=	87
2	+		=	13	40	+	☐	=	43	2	+		=	8

3	+		=	10	8	+	☐	=	10	1	+		=	10
	+	4	=	10		+	5	=	10	7	+	☐	=	10
6	+		=	10	9	+		=	10	☐	+	9	=	10
5	+		=	10		+	2	=	10	10	+	☐	=	10
2	+		=	10	4	+		=	10	0	+		=	10

5	+		=	12	4	+		=	13	6	+		=	12
	+	3	=	11	4	+		=	11	8	+		=	16
	+	8	=	13	4	+		=	19	5	+		=	14
	+	7	=	14	4	+		=	15	7	+		=	16

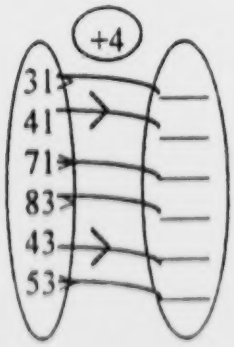
Only use the numbers 1,2,3,4,5,6,7,8 and 9

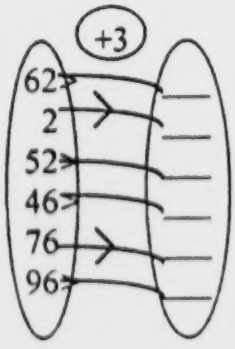
△ + ○ = 10	□ + ○ = 11	△ + ○ = 12
△ + ○ = 10	□ + ○ = 11	△ + ○ = 12
△ + ○ = 10	□ + ○ = 11	△ + ○ = 12
△ + ○ = 10	□ + ○ = 11	△ + ○ = 12
△ + ○ = 10	□ + ○ = 11	△ + ○ = 12
△ + ○ = 13	□ + ○ = 14	△ + ○ = 15
△ + ○ = 13	□ + ○ = 14	△ + ○ = 15
△ + ○ = 13	□ + ○ = 14	△ + ○ = 15
△ + ○ = 13	□ + ○ = 14	△ + ○ = 15
△ + ○ = 16	□ + ⬭ = 17	
△ + ○ = 16		△ + ○ = 18
△ + ○ = 16	□ + ⬭ = 17	

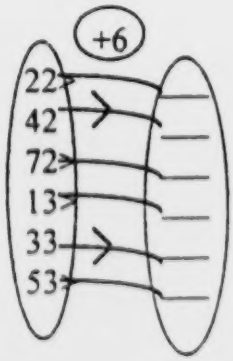
Use peg-board or counters to do these.

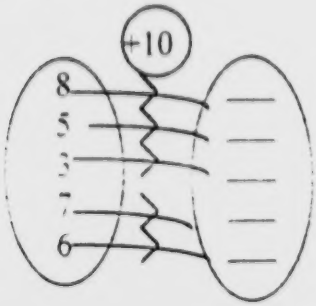
1 + 2 = ___
1 + 2 + 3 = ___
1 + 2 + 3 + 4 = ___
1 + 2 + 3 + 4 + 5 = ___
1 + 2 + 3 + 4 + 5 + 6 = ___
1 + 2 + 3 + 4 + 5 + 6 + 7 = ___

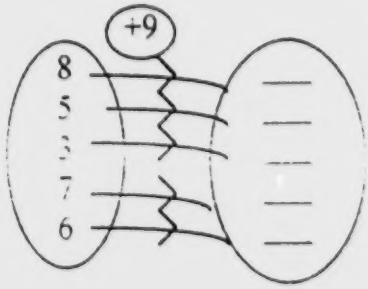
1 + 2 + 3 + 4 + 5 + 6 + 7 = ___
2 + 3 + 4 + 5 + 6 + 7 = ___
3 + 4 + 5 + 6 + 7 = ___
4 + 5 + 6 + 7 = ___
5 + 6 + 7 = ___
6 + 7 = ___











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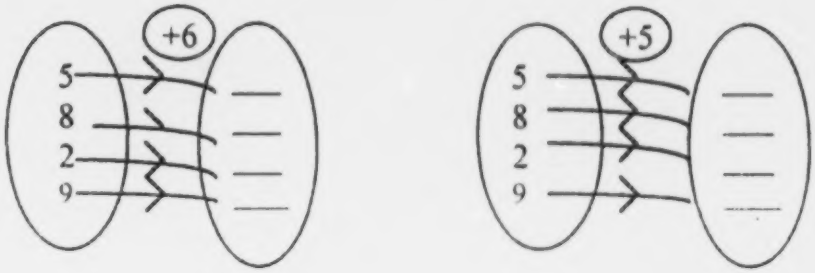
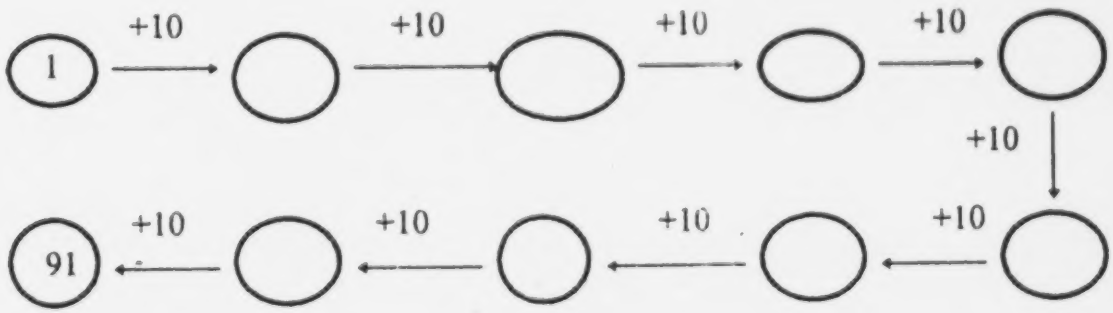
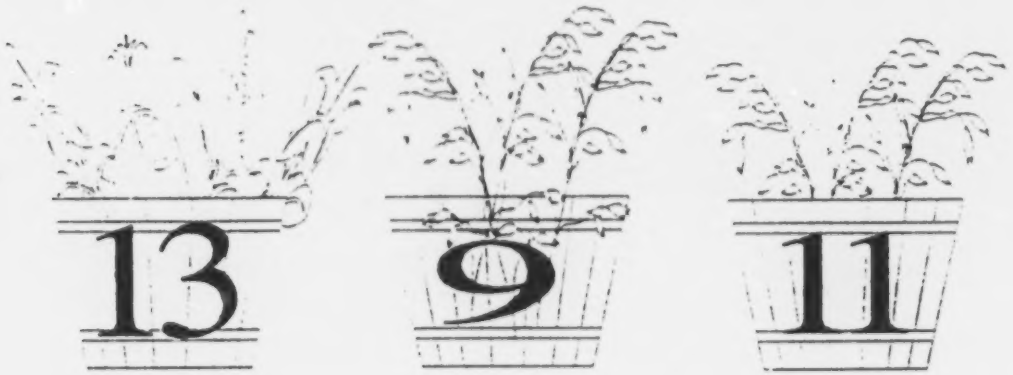


	23 + 12 = 35						
+	1	3	6	10	12	24	25
3							
4							
11							
14							
23					35		
32							
40							
53							
62							
72							
74							



Pick a bunch of flowers.

Look at the first vase of flowers.
Use colours to show the flowers you choose.
The total must be that on the vase.



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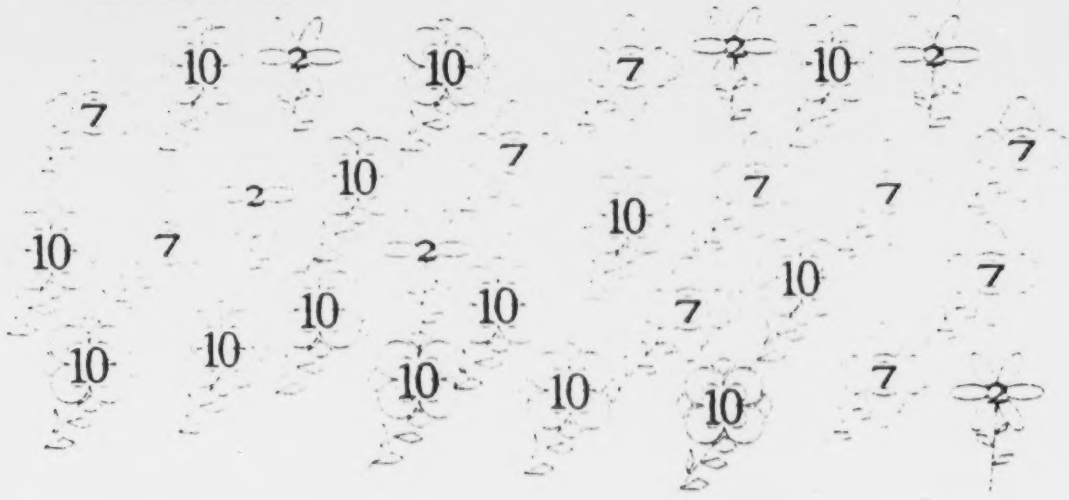
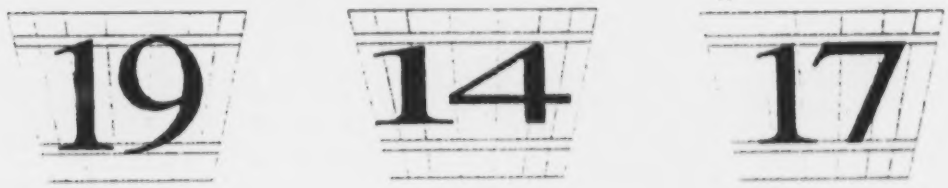
Pick more flowers



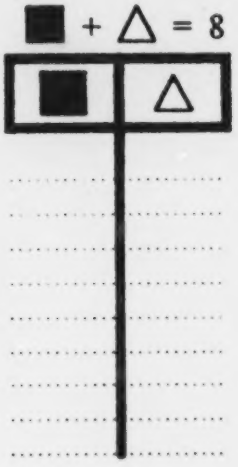
Put flowers in every vase.
The total must be what is written on the vase.

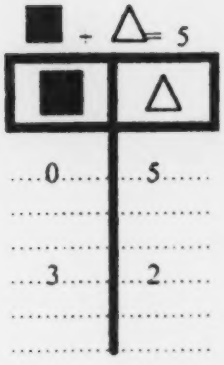


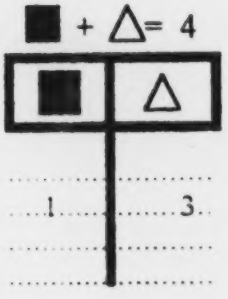
Write the numerals another way in each box.
Do not use 0
Only use + sign

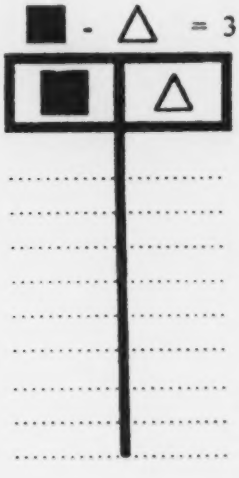
2				
3				
4	2 + 2	3 + 1	1 + 3	
5				
6				
7				
8				
9				
10				

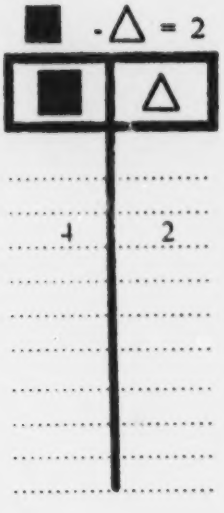
Write down pairs of numbers which fit

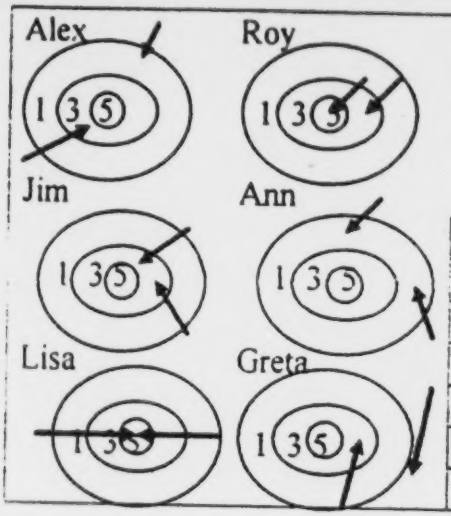








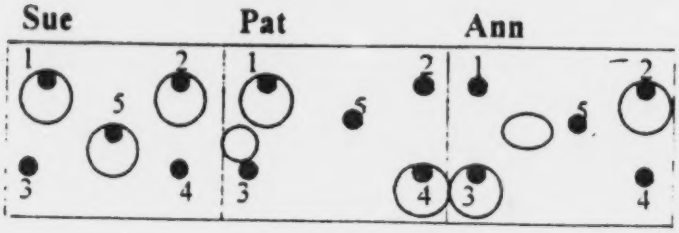


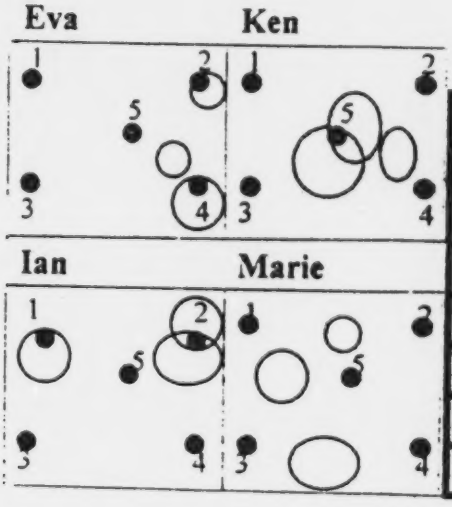


Some children have been playing darts.
Here is how they got on.
Work out their score and placing.

Name	Score	Placing
Alex		
Roy		
Jim		
Ann		
Lisa		
Greta		

Some children have played on a ring board.
Work out their scores and placing.





NAME	SCORE	PLACE
Sue		
Pat		
Ann		
Eva		
Ken		
Ian		
Marie		

Word Problems

It is never too early to introduce children to word problems. The teacher may need to read these examples to the children depending on their reading ability.

1. In Britain you usually start school when you are 5. Then you must go to school for 11 years. You are _____ years old when you leave.

2. One saucepan holds 9 eggs, the other saucepan 8 eggs. How many eggs can be boiled in the 2 saucepans together? Answer ____ eggs

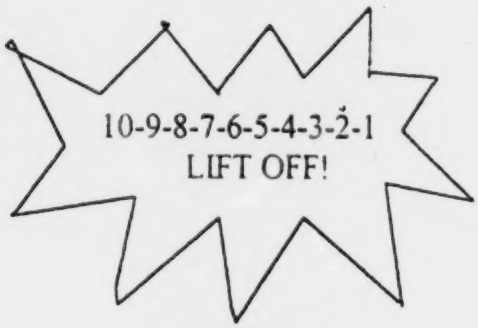
3. 5 people get into an empty lift. One floor up 3 more people get in. There are now ____ people in the lift. Later 2 people get out. There are now ___ people in the lift.

4. A nurse begins work at 8am. She finishes at 8pm. She has worked ____ hours.

5. 12 horses were suppose to come tot the start of a horse-race, but 3 did not come. How many horses took part? Answer _____ horses.

In a competition Peter earned 330 points, Steven 350 points and Julie 320 points. Who earned the most points? _____ earned most.

Read the numbers down the columns.
Can you see the pattern?
Fill in the spaces.



You have found ten ways to make 10. How many ways can you find to 6? Try on a separate piece of paper.

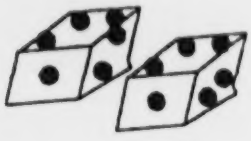
1	+	9	=	10
2	+	8	=	10
3	+	7	=	10
	+	6	=	10
5	+		=	10
6	+		=	10
	+	3	=	10
	+	2	=	10
9	+	1	=	10
	+	0	=	10

Here is a different pattern.
Look down the columns again.
Can you fill in the spaces?

1	+	10	=	11
2	+	12	=	12
3	+	10	=	
	+	10	=	14
	+	10	=	15
6	+	10	=	
	+	10	=	17
8	+	10	=	
9	+	10	=	
	+	10	=	20

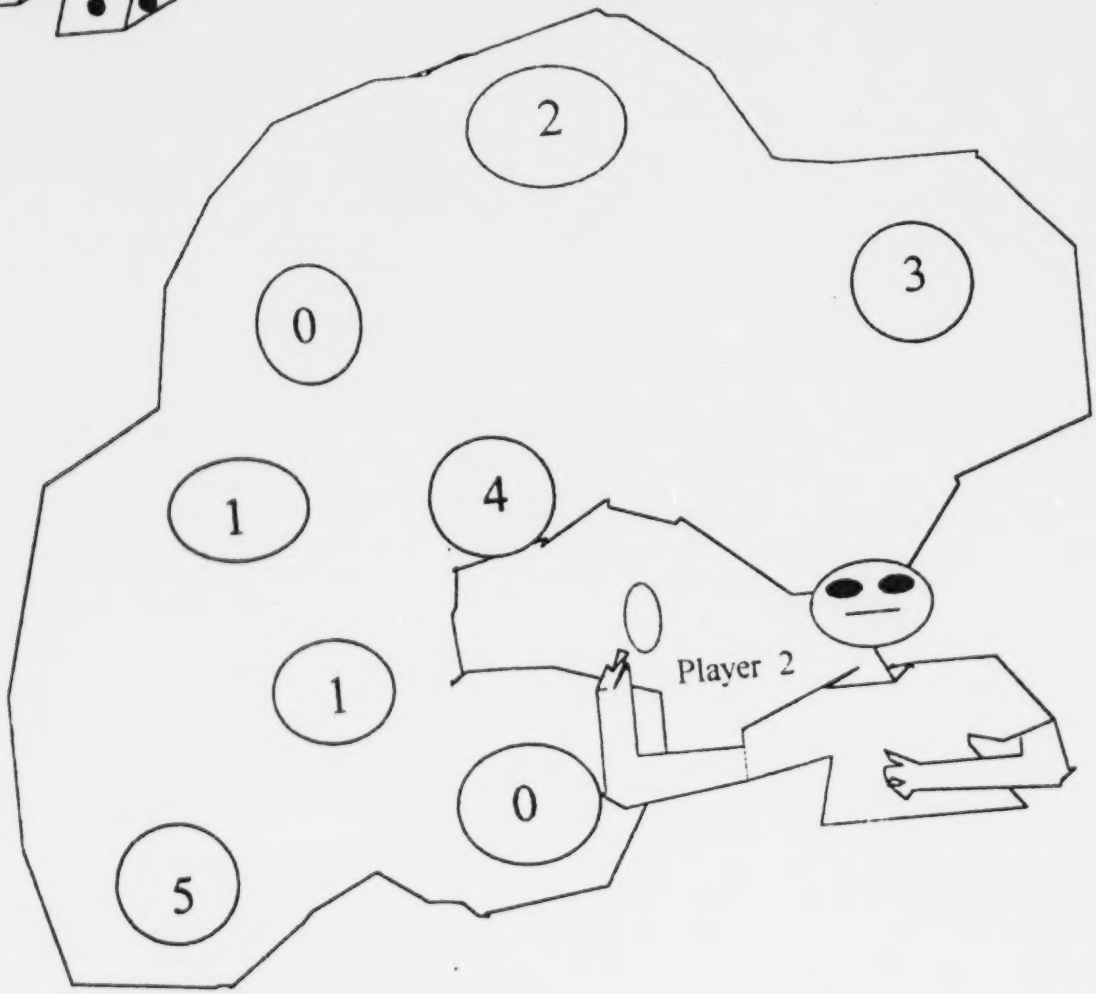
Look for patterns in numbers.
They will help you with
your maths.

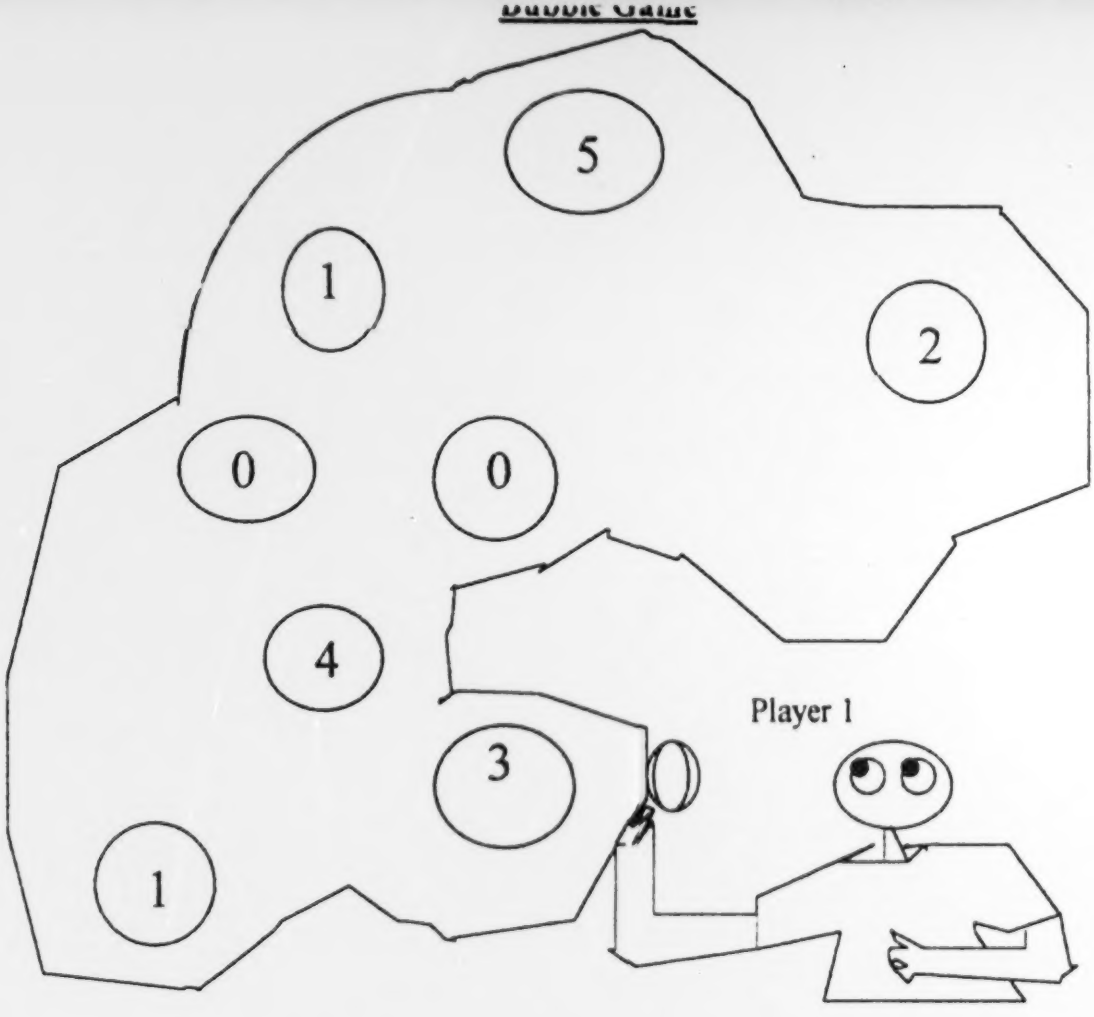
You need
2 dice



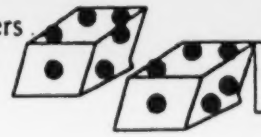
This is a game for two players .

1. Take it in turns to roll both dice.
2. Subtract the smaller number from the larger one.
3. Find the bubble with the answer on it and "burst" it by crossing it through.
4. The winner is the first to burst all of his or her bubbles.




5
1
2
0
0
4
Player 1
3
1

A game for two players



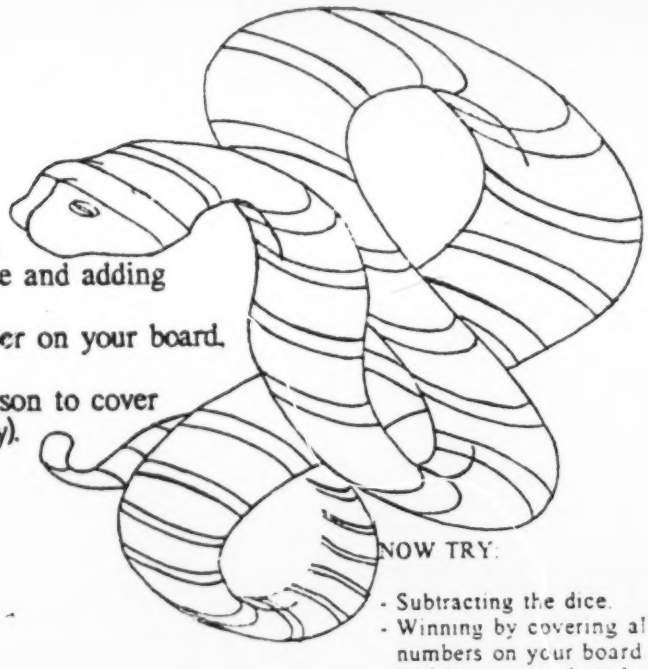
You need

Two dice

Enough counters to cover the numbers

RULES

- Both sit facing a board
- Take turns rolling both dice and adding up the numbers.
- If you have the total number on your board, cover it with a counter.
- The winner is the first person to cover a line (across or diagonally).



NOW TRY:

- Subtracting the dice.
- Winning by covering all the numbers on your board
- Making up new boards.

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6	7	9
5	7	8
6	4	5

Player B

4	10	7
5	6	5
7	8	6

Player A

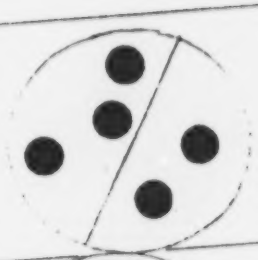
SUBTRACT

These examples promote a range of activities all designed to practice the basic rules.

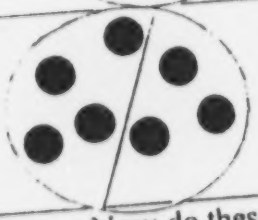
15-8= _____	13-7= _____	15-6= _____	15-8= _____
17-9= _____	15-9= _____	11-3= _____	12-5= _____
16-10= _____	11-8= _____	16-9= _____	17-8= _____
18-9= _____	12-9= _____	12-3= _____	14-7= _____
12-7= _____	16-8= _____	17-8= _____	11-5= _____
15-7= _____	11-5= _____	11-9= _____	13-6= _____
12-7= _____	11-6= _____	18-9= _____	14-6= _____
14-9= _____	14-5= _____	11-9= _____	12-9= _____
16-8= _____	12-6= _____	15-7= _____	15-9= _____
12-8= _____	14-8= _____	12-3= _____	13-5= _____
11-3= _____	16-9= _____	17-9= _____	11-8= _____
13-9= _____	13-8= _____	15-6= _____	14-8= _____

	9 - 6 = 3			
-	1	3	(6)	8
8				
(9)			3	
9				
8				
10				
20				
30				
19				
18				

Subtraction from Addition



Here is a set of 5 spots.
From this set you can see:
3 + 2 = 5 (check this)
Can you also see that
5 - 3 = 2 and
5 - 2 = 3 (check this)

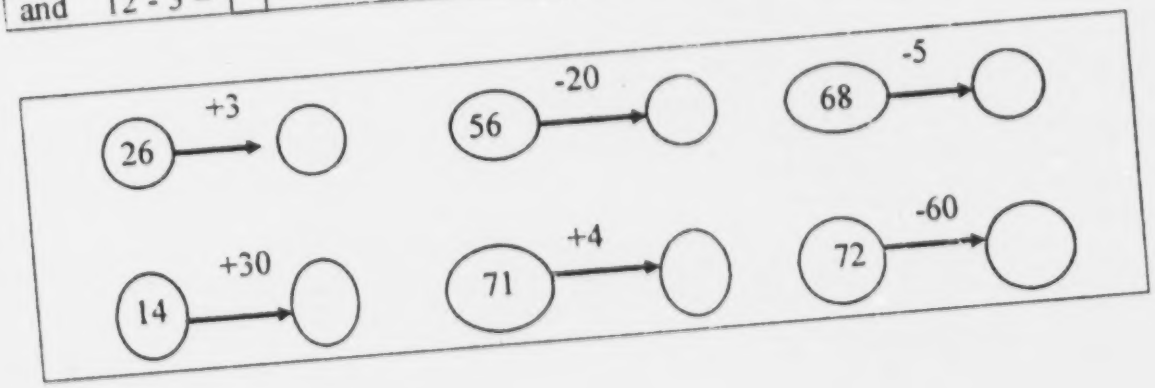


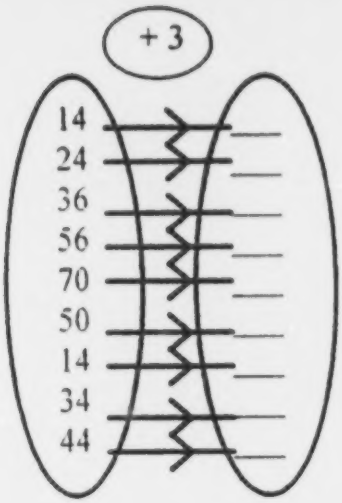
Try it with this
next set of spots
4 + 3 = ☐
☐ - 3 = 4
7 - 4 = ☐

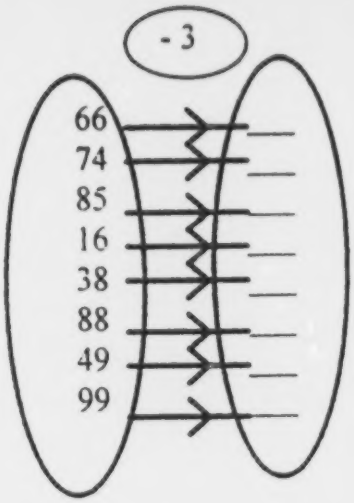
Now do these:
draw your own
sets of spots.

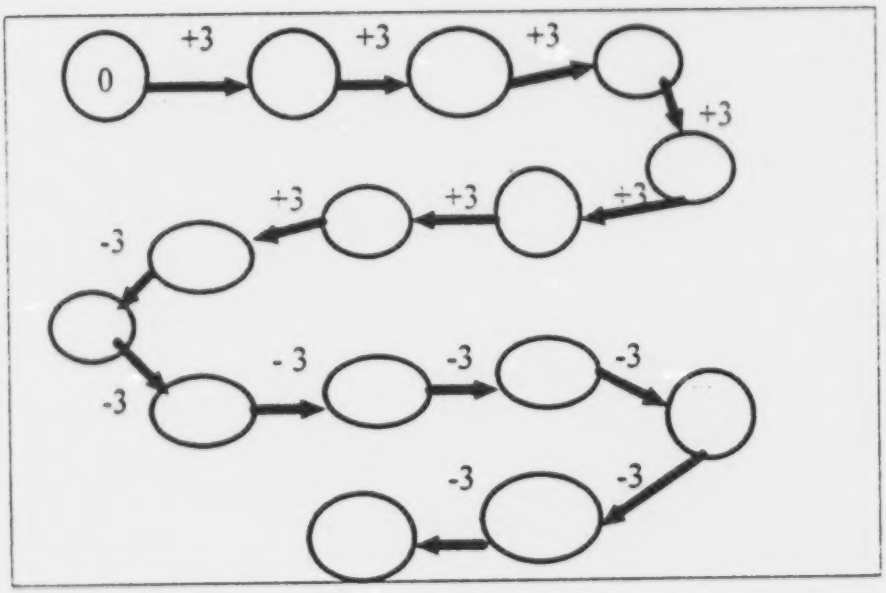
if 6 + 4 = 10
then 10 - 6 = ☐
and 10 - 4 = ☐
if 9 + 3 = 12
then 12 - 9 = ☐
and 12 - 3 = ☐

if 20 + 15 = 35
then 35 - 20 = ☐
and 35 - 15 = ☐
if 27 + 10 = 37
then 37 - 27 = ☐
and 37 - 10 = ☐
if 15 + 5 = ☐
then ☐ - 15 = 5
and ☐ - 5 = 15



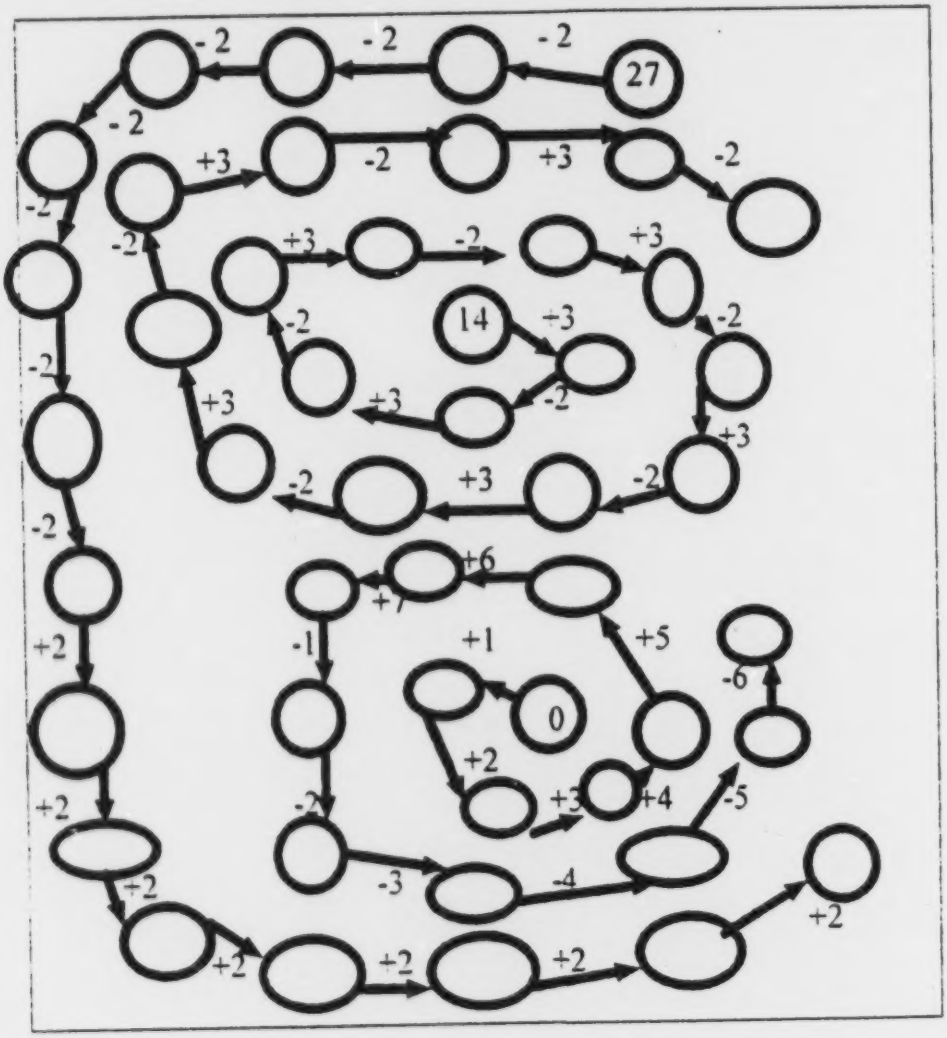

+ 3
14
24
36
56
70
50
14
34
44


- 3
66
74
85
16
38
88
49
99


0
+3
+3
+3
+3
+3
+3
+3
-3
-3
- 3
-3
-3
-3
-3

Pat and Stephen have 10 apples altogether

If pat has	9	Stephen has	1 apple
If Pat has	..... apples	Stephen has	2 apples
If Pat has	7 apples	Stephen has	..... apples
If Pat has	..... apples	Stephen has	4 apples
If Pat has	5 apples	Stephen has	..... apples
If Pat has	..... apples	Stephen has	6 apples
If Pat has	3 apples	Stephen has	..... apples
If Pat has	..... apples	Stephen has	10 apples
If Pat has	1 apple	Stephen has	..... apples
If Pat has	..... apples	Stephen has	8 apples
If Pat has	10 apples	Stephen has	..... apples


27
14
0

MULTIPLICATION AND DIVISION

Core curriculum: 2.3, 2.4, Multiplication and Division

Age Range: T2

Group size: Individual/small group

Objectives:

To develop the concept of multiplication and division of number through a variety of activities.

Resources:

1 - 100 number square
Multiplication Mapping Worksheet

Coloured Crayons

Previous Knowledge:

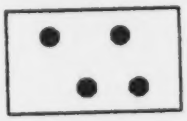
Basic numeracy and familiarity with addition of numbers.

Task:

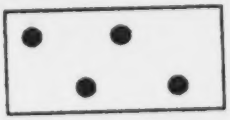
Multiplication

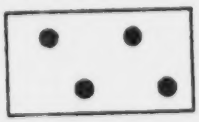
1. Practice counting in 2's, 5's, 10's, etc., using a 1 -100 number grid. If each child has copies of the number square the multiples can be coloured i.e. colour multiples of 2 in red, multiples of 5 in blue etc. (Also shows number patterns)
See also CPM BK2 second part, page 3, lesson 84.

2. Develop the concept of repeated sets by using diagrams such as:



3 sets of 4 = 12
4 + 4 + 4 = 12





.....3 children with 2 eyes = 6 eyes
Repeat for hands, fingers etc.

Examples of fruits, vegetables, can be used to create a realistic picture. Draw circles on students' desk with chalk and then use stones.
See also CPM BK2 second part, page 8-9, lessons 90-91; page 38 lesson 116.

3. Use the 'Multiplication Mapping' sheet to give further practice. Students may be able to make up similar pictures to try out on others.

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Practice dividing sets into similar groups i.e. take 20 stones and divide them into 5 groups, into 4 groups etc.
See also CPM BK2 second part, pages 42-45, lessons 121-123; page 64, lesson 138.

Important points

This is a lengthy topic for students to fully understand- it may be advisable to extend this work over several weeks, incorporating other topics into maths lessons to give a range of activities.

Table Squares

It is useful to get the children used to using a multiplication square from an early age. A complete square (to 10) is included for reference.

1	2	3	4	5	6	7	8	9	10
2	4	6	8	10	12	14	16	18	20
3	6	9	12	15	18	21	24	27	30
4	8	12	16	20	24	28	32	36	40
5	10	15	20	25	30	35	40	45	50
6	12	18	24	30	36	42	48	54	60
7	14	21	28	35	42	49	56	63	70
8	16	24	32	40	48	56	64	72	80
9	18	27	36	45	54	63	72	81	90
10	20	30	40	50	60	70	80	90	100

Young children may need only the first 2 or 3 rows - but it is a useful exercise for them to be able to use such a table for reference.

Number Square Patterns

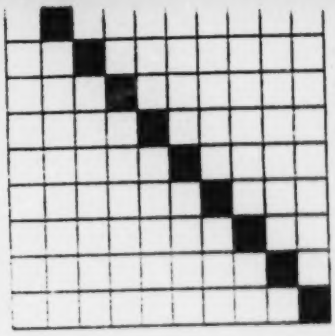
1	2	3	4		6	7	8	9	10
	12	13	14	15	16	17	18		20
21	22		24	25	26	27	28	29	
31	32	33	34	35	36	37	38	39	40
41	42	43					48	49	50
51	52	53	54	55	56	57	58		60
61	62		64	65	66	67	68	69	70
	72	73	74	75	76	77	78	79	80
	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98		100

- Fill in the missing numbers.
- Colour in all the squares that end in a 5.

What happens? _____

- Colour in all the squares that end in a 0.

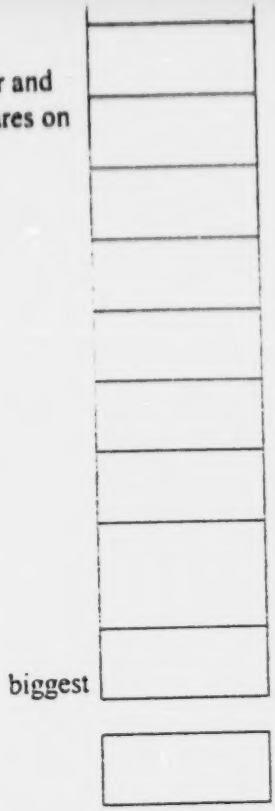
What happens? _____



Start from any corner and colour in all the squares on the diagonal.

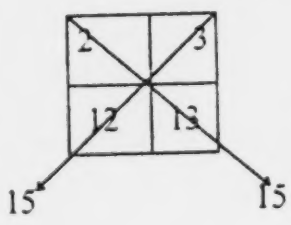
Now try the other diagonal on a piece of paper. What difference do you notice?

- Now write the numbers in order from the smallest to the biggest
- Look at how each column of numbers grows bigger or smaller one by one



Which number comes next?

- Choose any small square of 4 numbers from the big square. Total each diagonal.
-
- Try with other small squares. Do the diagonals always total the same?



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5 lots of 3 fingers → Make 15 fingers

Can you map each sum to the correct alien?

4 x 2

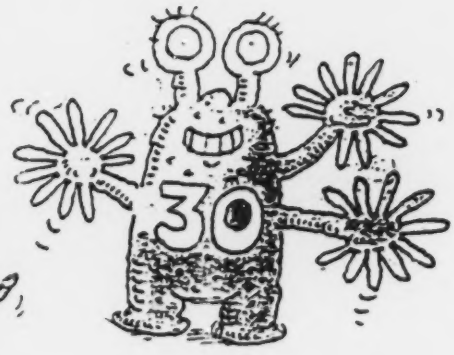
3 x 10

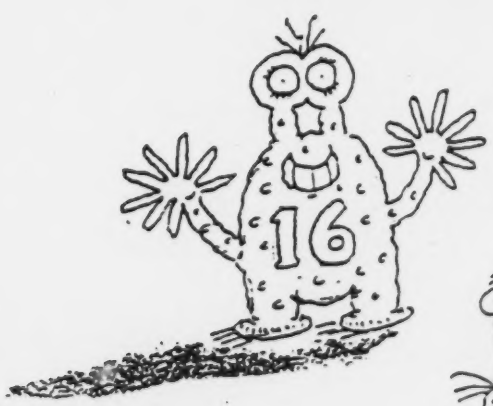
6 x 3

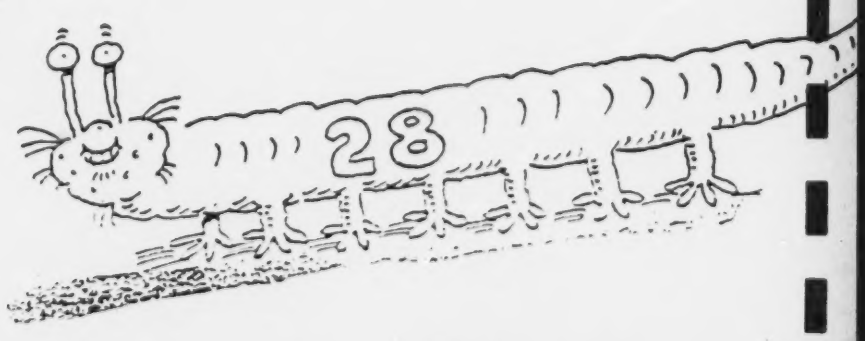
5 x 5

7 x 4

2 x 8







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One foot has 5 toes

2 feet have ☐ toes

5 + 5 = ☐

One bicycle has 2 wheels

3 bicycles have ☐ wheels

2 + 2 + 2 = ☐

One chair has 4 legs

2 chairs have ☐ legs

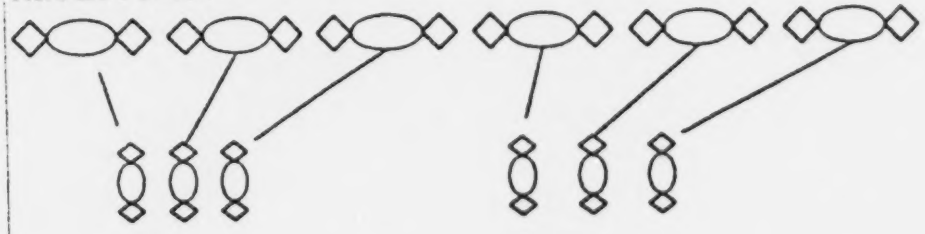
4 + 4 = ☐

One bird has 2 wings

4 birds have ☐ wings

2 + 2 + 2 + 2 = ☐

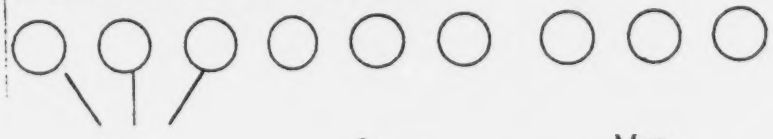
Here are 6 sweets



Colin Steven

Each boy has ☐ sweets $\frac{6}{3}$ → 2 because 2 X(3) → 6

Share these 9 biscuits among 3 children



Colin Steven Mary

Each child has ☐ biscuits $\frac{9}{3}$ → ☐ because 3(☐) → 9

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St.Vincent and the Grenadines
Mathematics

Core Curriculum Outline
6 - 7 Year Olds

3.0. **Measurement and Geometry**

3.1 **Length** (Term 1)

3.1.1 Measure using non-standard measurements, span, pace, etc.

3.1.2 Compare lengths using standard measures. (metre)

3.1 **Length** (Term 2)

3.1.1 As term 1.

3.1.2 As term 1 plus 10cm rods.

3.1.3 Arrange objects according to length (shortest - longest and vice versa)

3.1.4 Use measuring instruments with greater precision.

3.1 **Length** (Term 3)

As term 2

3.2 **Capacity** (Term 1, 2, 3)

3.2.1 Measure liquids using litre, half litre.

3.2.2 Use words such as more/less than to describe new experiences.

3.2.3 Arrange containers according to their capacity.

3.3 **Mass** (Term 1)

3.3.1 Compare the mass of given objects (using kg)

3.3.2 Guess the mass of various shapes (1kg, half kg)

3.3.2 Use balance to verify weights.

3.3 **Mass** (Term 2)

3.3.1 As term 1 plus quarter kg.

3.3.2 Guess the mass of various objects and use balances to verify weight.

3.3 **Mass** (Term 3)

3.3.1 As terms 1 and 2.

3.3.2 Guess the mass of various objects using kg, half kg, quarter kg.

3.3.3 Use balances to verify weight.

Practical measurement activities

Core curriculum: 3.1 Length, 3.2 Capacity, 3.3 Mass

Age Range: 12

Group Size: Class, group, individual

Objectives:

To give a range of practical experiences as an introduction to the given topics.

Resources:

Measuring equipment for length, capacity and weight.
Objects to weigh, containers to fill with water.

Previous Knowledge:

None required.

Task:

Each of these topics can be introduced using similar methods. All three could be taught simultaneously with one group measuring distance, one group measuring capacity and a third weighing. However, the teacher may feel more confident taking each topic separately.

Pupils need to become familiar with the terms 'heavier' , 'lighter' ,'longer than', 'shorter than', 'holds more/ less than', 'weighs more/ less than', etc.

1. Introduce length by discussing the difference between long and short objects. Measure using hand span and draw up a table in the exercise book. Make comparisons, using 'longer' and 'shorter'. Measure 'accurately' using 10cm rods. Guess the length and build a table to show the guess, Actual and Error.

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2. Use suitable containers of different heights and widths to compare quantities of liquid held in each. Use words such as 'more' and 'less'. Introduce litre and half litre measurements then measure accurately. Draw tables of results. Arrange containers in order of capacity.

3. Pass around objects of different weights to introduce the concepts of 'heavier' and 'lighter'. Use scales to weigh accurately. Draw tables to show estimates v. actual weights. Weigh each other and incorporate this into a graph.

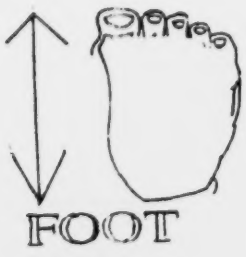
Important Points:

Consolidate each of these activities with some theory on actual measurements, i.e. cm, gm., kg., litre, etc. This is essential groundwork for later years.

Further Activity:

Look for projects, e.g. measuring pupils heights/weights throughout the year, measuring the height of a plant or shrub near to school. Incorporate some of the results into the work on graphs. These topics are essentially practical, so let the pupils measure for themselves - this way the concepts will develop naturally.

Measuring Units



Use string, sticks and strips of paper.

Measuring activities should include -

estimate, count measure, record, compare

Teach the necessary vocabulary -

longer, shorter, higher, taller.

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Capacity

Encourage practical activities to ensure children gain an understanding of quantity, 'more' , 'less' , etc.

You need: a spoon , a cup, a jug, a bucket and plenty of water! Let the children fill each container and answer the following questions -

(1) How many spoons fill a cup? _____

(2) How many cups fill a jug? _____

(3) How many jugs fill a bucket? _____

For this next activity you need 3 or 4 bottles or containers e.g. a cup, a jar, a bottle, a carton. Let the children fill the containers, pour water from one to another - giving them a 'feel' for the terms 'more' and 'less', then give a range of questions e.g.:-

1) Which do you THINK holds more, the jar or the bottle? _____
Fill and find out by pouring.

2) Which do you THINK holds less, the carton or the cup? _____
Again, fill and find out.

Repeat these activities using litre and 1/2 litre containers to compare quantities.

NB. Use similar activities for length and weight e.g.

1) Which do you think is the longest, the desk or the bench?

2) Which do you think is the heaviest, the book or the box of chalk? etc.

Weight

Make a collection of objects e.g. stones, (large) pebbles, crayons, books, sponge.

Let the children feel a 1 Kg weight, then 50 g. 20 g. etc.

Draw a table and ask children to guess which objects are heavier/lighter than a given weight e.g.

Object	Heavier / Lighter than 50g.
stones	
pebbles	
crayons	

Repeat with other objects and other weights.

NB. A similar table could be used for capacity and measuring.

Once children have some concept of lighter / heavier move on to weighing accurately. Let children weigh lots of objects and list their weights:-

Object	Heavier / Lighter than 50g.
stones	
pebbles	
crayons	

etc.

When this chart is complete put the objects in order from lightest to heaviest.

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St.Vincent and the Grenadines
Mathematics

Core Curriculum Outline
6 - 7 Year Olds

3.0 Measurement and Geometry

3.4 Money (Term 1)

3.4.1 Recognise 1c, 2c, 5c, 10c, 25c, 50c coins and $1 note.

3.4.2 Solve simple oral shopping problems not greater than 50c.

3.4.3 Combine different coins to get a sum (up to 50c).

3.4.4 Make purchases of single items and give change.

3.4 Money (Term 2)

3.4.1 As term 1

3.4.2 As term 1

3.4.3 As term 1 plus sums to $1.00

3.4.4 As term 1

3.4 Money (Term 3)

As term 2

Money

Core Curriculum: 3.4 money

Age Range: 12

Group size: Class, individual.

Objectives:
To introduce the concept of money and give simple experiences of shopping.

Resources:
Coins
Small items for a 'shop'

Previous Knowledge
Addition and subtraction of numbers.

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Task:

1. Give out coins and discuss value.
2. Draw different coins to aid recognition.
3. Combine different coins to give different sums of money.
4. Label small items with prices less than 50c. 'Sell' these to pupils, who record the activities to their exercise books.
5. If possible let pupils act as shop keepers. This gives practice at giving change.

Important Points:

Include as much practical work as possible.

Further Activity:

If older pupils recognise a school shop, or sell items, encourage the younger pupils to help.

St.Vincent and the Grenadines
Mathematics

Core Curriculum Outline

6 - 7 Year Olds

3.5 Time (Term 1)

3.5.1 Read the day and date from chalk board and the calendar.

3.5.2 Tell the time by the hour and half-hour from a clock face.

3.5 Time (Term 2)

3.5.1 As term 1

3.5.2 As term 1

3.5.3 Set clocks for given time on the hour and the half-hour.

3.5.4 Relative time to events in the school day.

3.5 Time (Term 3)

3.5.1 As terms 1 and 2

3.5.2 Tell the time by the hour, half-hour, quarter-hour from the clock face.

3.5.3 As term 2

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Time

Core Curriculum: 3.5 Time

Age Range: 12

Group size: Individual and group

Objectives:

Tell the time by the hour, half-hour, and quarter-hour from a clock face. Set clocks for a given time and relate these times to events in the school day.

Resources:

Rubber clock stamp
Clocks- home made (by pupils during art).

Previous Knowledge:

Pupils should be able to count to 60 and skip count in 5's.

Task:

1. Discuss events associated with time e.g. lunch time, bed time and develop language associated with time. (see sheet for 'time' words).

2. Each child to make their own paper clock (using templates provided by the teacher). This gives children experience of counting the digits, marking the numbers on a clock face and also their own clock with which to tell the time. (In making their own, hopefully they will take care of them).

3. Telling the time on the hour using the clock. (C.P. Maths Bk1, part 2, p34, lesson 105)

4. Telling the time 1 hour later than that shown on clock face. (C.P.Maths Bk1, part 2, p37, lesson 109).

5. Introduce words and numbers - 7.00 = seven o'clock.

6. Mark a clock face with 'PAST' and 'TO'. Introduce half, quarter, then 5, 10, 15, 20, 25 past and to. (C.P.Maths Bk2, part 2, p13, lesson 95).

7. Introduce further notation i.e. 7.30 = half past seven.

8. Use shaded clocks to develop the idea of 'how many minutes in a quarter'. (C.P.Maths, Bk2, part 2, p14, lesson 96).

9. Match given words for given times. Use cards with time in numbers and time in words; children play a matching game. (C.P.Maths Bk2, part 2, p15, lesson 97, e.g. A, E, p62, lesson 137, e.g. A, B)

10. Relate time to the school day - use a wall chart and wall clock to show the different times for certain lessons, activities, breaks, etc. Nominate one group of children to alter the clock when each event changes.

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11. Further examples from C.P.Maths, Bk2, part 2. p13, 14, 62, 63.

Important Points:

Children should use their 'home-made' clocks, larger 'home-made' clocks, actual school clock plus rubber stamp clock faces to give a range of practical and hands-on experiences.

Further Activity:

Caribbean Primary School Maths Books 1 and 2 give additional exercises to those devised by the teacher. These can be used in conjunction with maths lessons as new topics are introduced or could be used as revision at a later date.

1. Give children a 'real' idea of time by asking them to sit still and quiet for 1 minute, then ask them to close their eyes and put up their hands when they think a minute has passed. Let them open their eyes when a minute is up and see how many have under/over-estimated .

2. Time the children doing various activities e.g. run across the playground, give out a set of books, sharpen a pencil etc. Compare this with the time it takes to travel to town in a van, walk to the nearest shop etc.

TIME WORDS

Words		Way of introducing
Morning - afternoon - evening	=	greetings
Early - late	=	arrival at school
Yesterday - today - tomorrow	=	events which have/will take place
Night - Day	=	activities associated with day - light - sun - play - school - farm night - dark- stars - sleep
Birthday	=	Pictograph of class birthdays (each child has a square of paper, draws a picture of himself - puts on pictograph)
Before - after	=	recess, lunch-break lessons before - after days , months.
Days of week Months of year	=	use calendars, display a list of days, months.
Rhymes (Sing and act)	=	Wee Willie Winkie runs through the town Upstairs and downstairs in his nightgown Peeping in the window, knocking at the doors Are the children now in bed, its past 8 o'clock.

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St.Vincent and the Grenadines
Mathematics

Core Curriculum Outline
6 - 7 Year Olds

3.6 Geometry - Shapes (Term 1)

3.6.1 Identify the properties of shapes.

3.6.2 Match the names with the shape.

3.6 Geometry - Shapes (Term 2)

3.6.1 As term 1

3.6.2 Use basic shapes to make other shapes, e.g. square and rectangle to form triangle

3.6.3 Recognise shapes in around the classroom.

3.6 Geometry - Shapes (Term 3)
As term 2

Shapes

Core Curriculum: 3.6 Shape

Age Range: 12

Group size: Individual and class

Objectives:
To consolidate the ability to recognise and name basic 2-D shapes.

Resources:
Duplicated sheets - see attached
Coloured crayons

Previous Knowledge:
Children should be able to recognise and name a circle, square, rectangle and triangle.

Task:
1. Name and draw a square, rectangle, triangle and circle
2. Use "Shape Activity" sheet (3) to match corresponding shapes

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3. Use sheet (4) to give further practice at shape recognition. Patterns are introduced using colours.

4. Give each child a copy of sheet (5) with appropriate instructions, e.g. 'colour all the circles red'. Extend this work by asking children to count the different types of shapes on their pictures. Sheets 6 - 8 continue this work and could be used during an art lesson then displayed on the wall. (NB. Maths has links in other subject areas).

5. The sheet used in (5) could be used as a starter for finding similar shapes in other pictures/around the school.

6. Sheet 9, 'odd one out' gives further practice at shape recognition.

7. Sheet 10 introduces the concept of shapes having corners and edges and leads into the 'shape game' (sheet 11)

8. It is useful to let children use cut-out shapes (or plastic ones if available) to draw round. These can be combined to make different shapes, which children can draw round.

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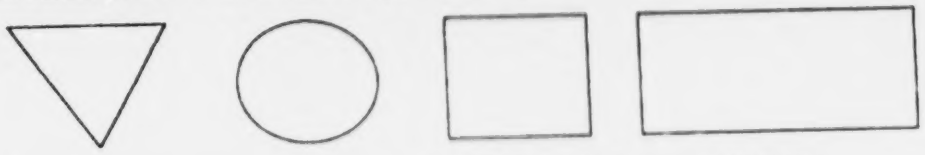
SHAPES (1)

As an introduction to the work on shapes draw a square, circle, rectangle and triangle on a large sheet of paper, label each one.

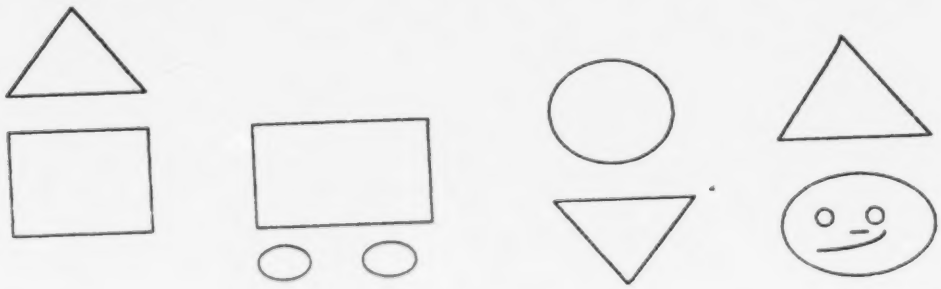
Make cardboard cut outs of each shape and ask children to draw round them.

eg. 

This activity improves co-ordination and introduces the concept of shapes.

As an extension to this work draw simple patterns and pictures using the above shapes.

Ask children to copy them and colour.
(Mount these on the wall).



SHAPES (2)

Trace the words

Colour the shapes

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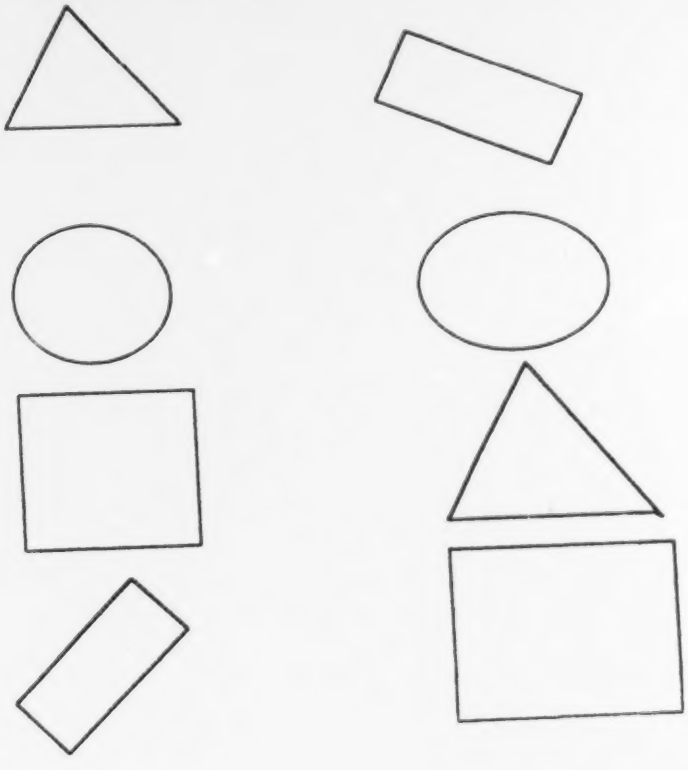
Shape Activity Shapes(3)

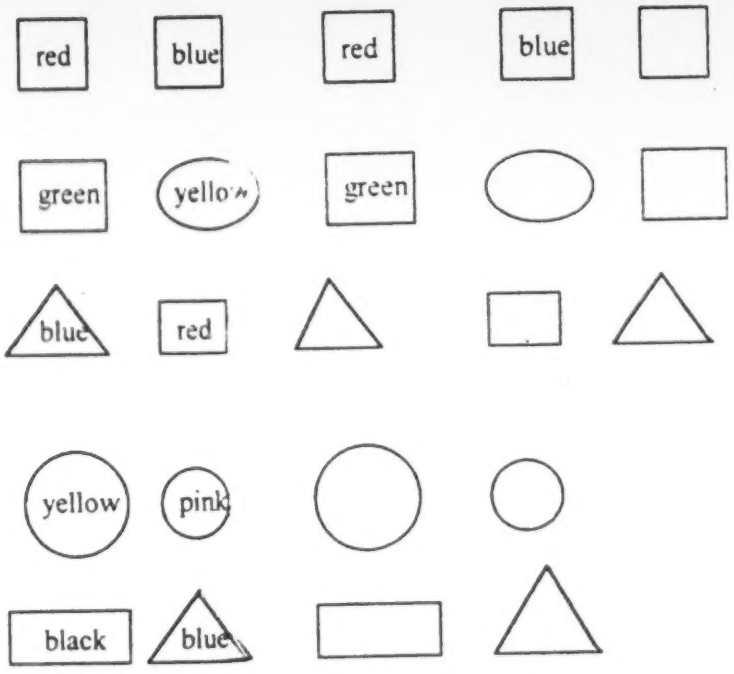
1) Join pairs that have the same shape.

2) Colour matching pairs



Shapes (4)

Colour and continue the patterns -



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Shapes (5)

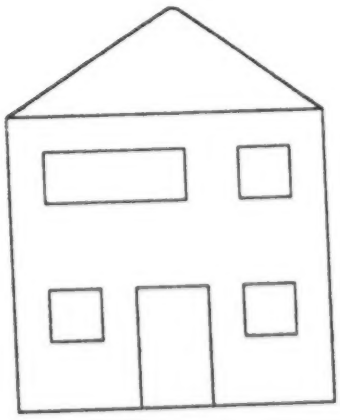
Colour the shapes / pictures

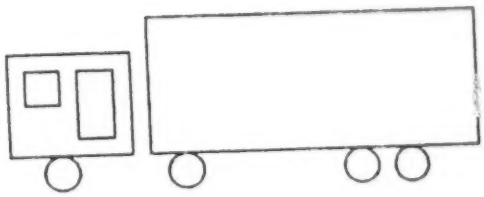
red

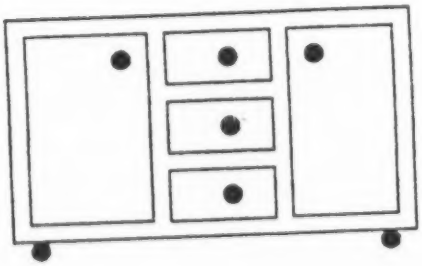
blue

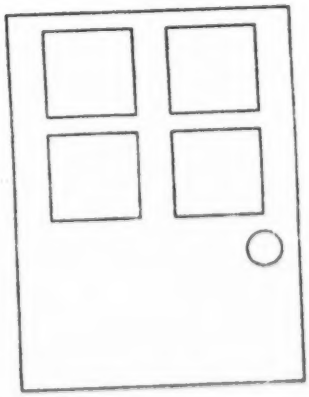
orange

green



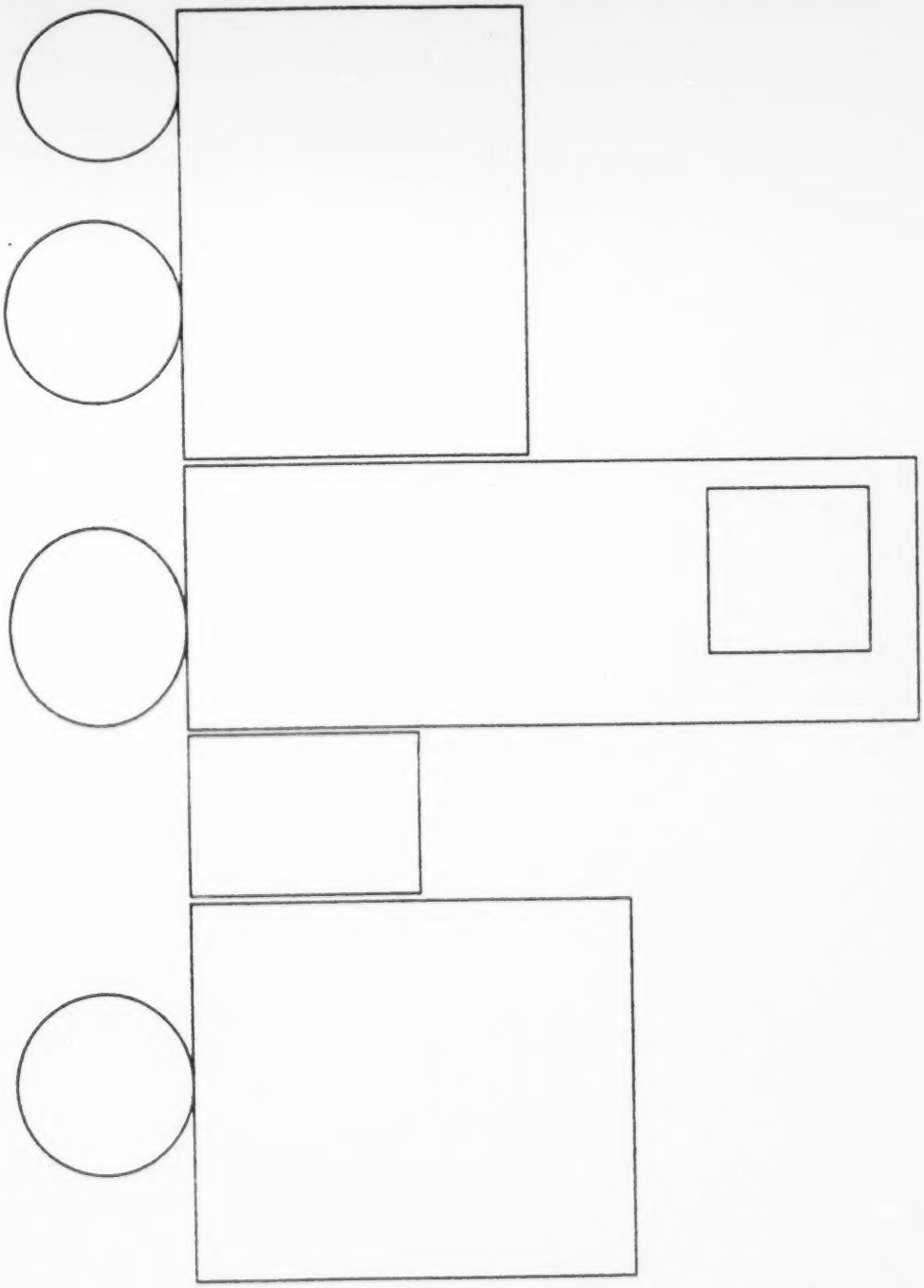






Shapes(6)

Give the children instructions to colour the circles in red, squares in blue etc.



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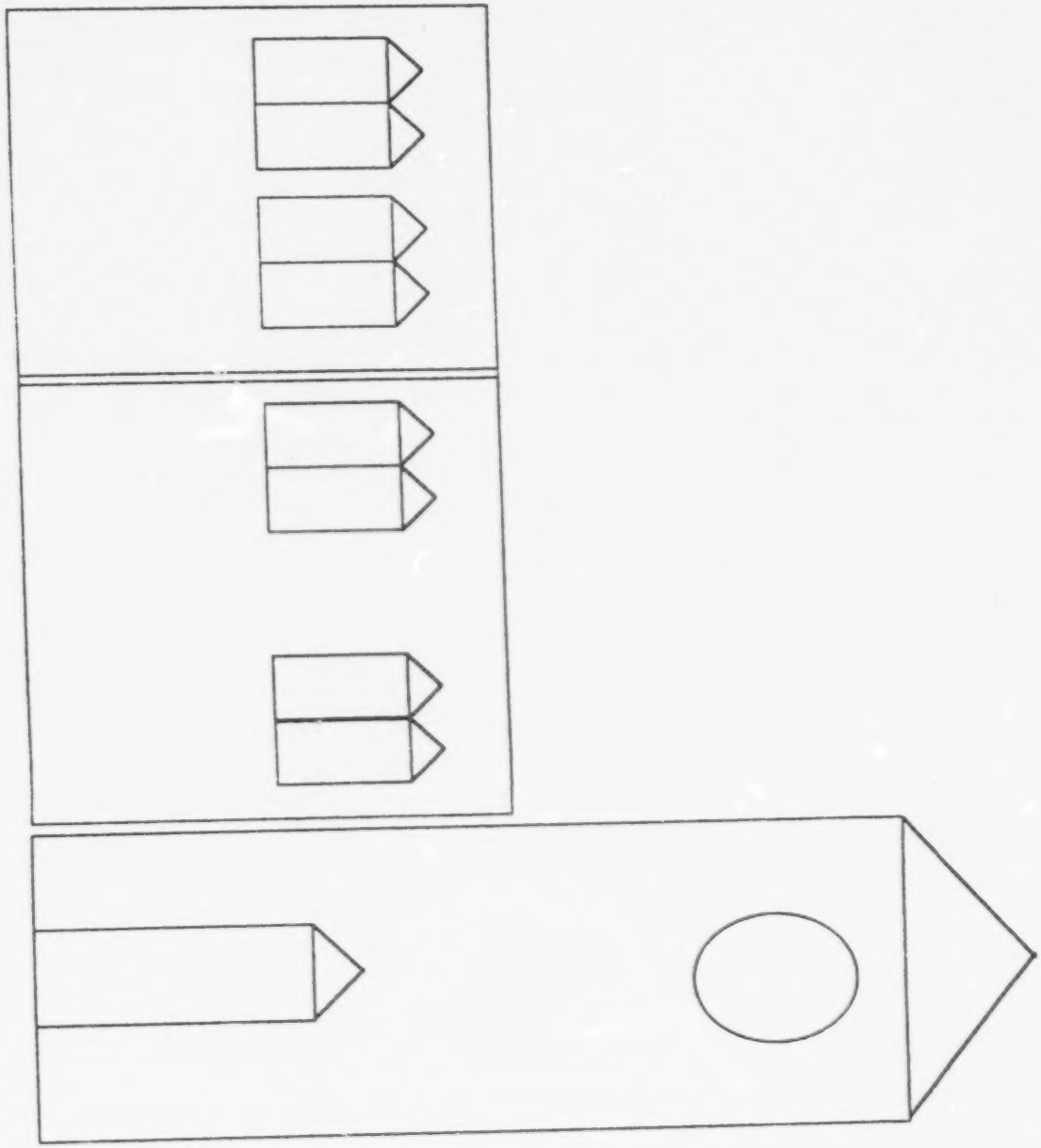
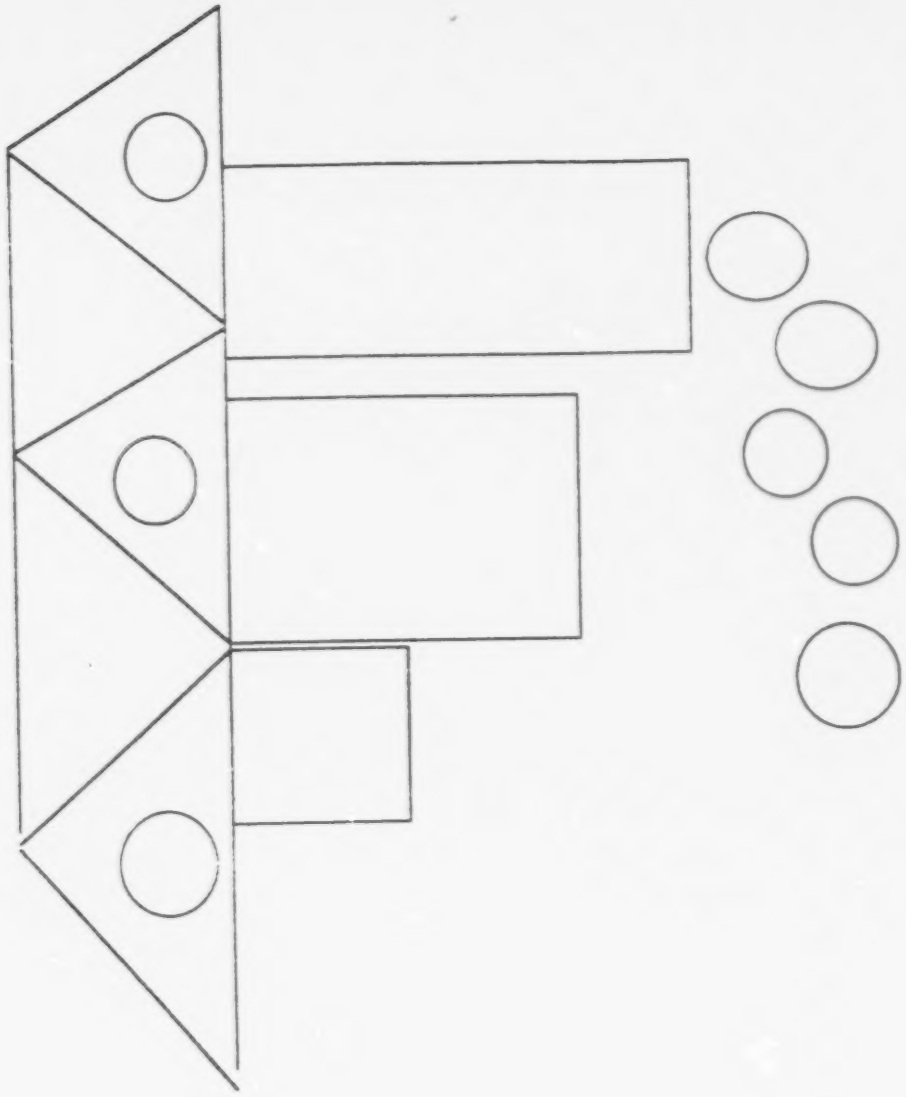
Shapes(7)



Shapes (8)



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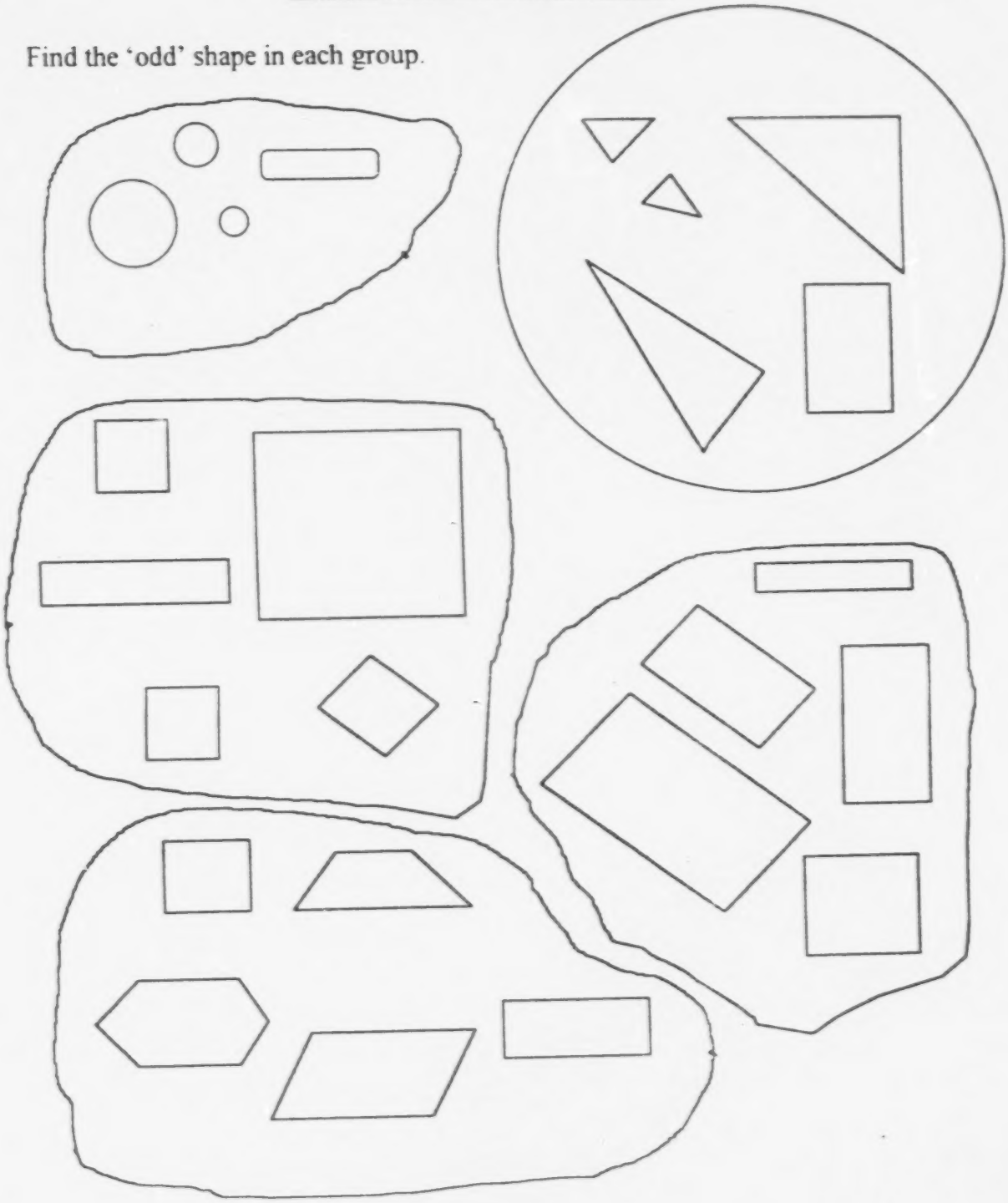
Shapes (9) : "Odd one out"

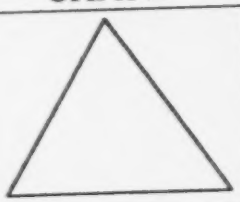
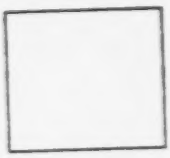
Find the 'odd' shape in each group.



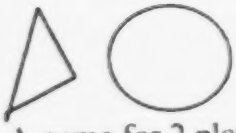
Shapes (10)

1) Write the name of each shape in the box.

2) Count the edges and corners and write the numbers in the boxes.

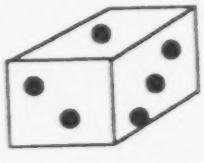
SHAPE	NAME	EDGES	CORNERS
			
			

Shape Game Shapes(11)



A game for 2 players

You need



A dice

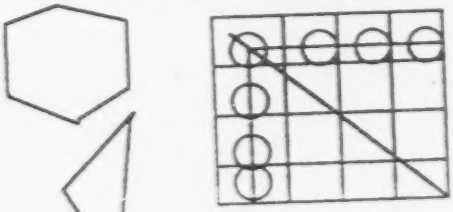
16 counters

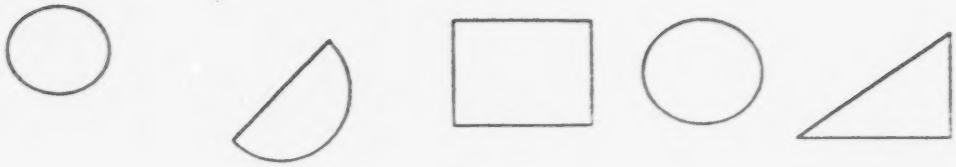
(8 of each colour)

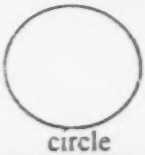
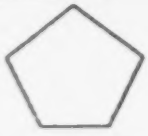
Rules

- Each person rolls the dice.
  The person with the highest score goes first.
- Take it in turns to roll the dice, using a counter to cover a shape with the same number of sides as the number shown on the dice.
- Miss a turn if there are no shapes left with the correct number of sides.

The winner is the first person to get four counters in a row up, across or diagonally.





triangle	oblong	square	 circle
hexagon	circle	semicircle	rectangle
semicircle	 pentagon	triangle	circle
pentagon	triangle	hexagon	semicircle

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St.Vincent and the Grenadines
Mathematics

Core Curriculum Outline
6 - 7 Year Olds

4.0 Graphs (Term 1)

4.1 Make picture graphs

4.2 Interpret information from picture graphs

4.3 Fill in information on a picture graph

4.0 Graphs (Term 2)

4.1 Read information shown in picture graphs

4.2 Answer questions on picture graphs

4.3 As term 1

4.4 Draw simple block graphs

4.0 Graphs (Term 3)

As term 2

Graphs

Core Curriculum: 4.0 Graphs

Age Range: 12

Group size: Class, group and individual

Objectives:
To make graphs and interpret information from graphs

Resources:
Large sheets of paper (square paper if available) with axes marked
Coloured paper and/or sticky paper
Coloured crayons
Glue

Previous Knowledge
None required

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Task:

1. Make a class graph initially. Select a topic, e.g. favourite fruits, vegetables; give each pupil a square of paper on which to write their name. The teacher will need to prepare the grid so that the pupils can stick (or glue) their square in the appropriate place.

2. Follow up the activity in (1) by asking:
"how many children like mangoes?, plums?, etc."
"which is the most popular fruit?"
"which is the least popular?"

3. Make further class or group graphs on topics such as month of birthday, favourite lesson, height, weight, favourite sport, etc.

4. Use different methods of representing the data:-
"stick men" with the pupils name on,
pictures of fruits, vegetables, etc.
each pupil draws their face, adds the name, build graphs using faces.

5. Let pupils draw their own graph in their books or on paper - they will need help with the scales/axes.

Important Points:

It is important to discuss the points shown on the completed graph - ask questions based on words such as : highest, lowest, most, few, etc.

Develop the concept of using scale, with equal divisions - as this often causes problems later in school.

Further Activity:

Large graphs should be posted on the classroom walls - pupils love to see their work displayed and will often learn from casual discussion with their peers.

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St.Vincent and the Grenadines
Mathematics

Core Curriculum Outline
6 - 7 Year Olds

5.0 Fractions (Terms 1)

5.1 Recognise half an object

5.2 Recognise half a set of objects (up to 10)

5.3 Divide objects/regions into sets of half

5.4 Shade half of a given region

5.5 Match the symbol $\frac{1}{2}$ with a given region or object

5.6 Recognise a quarter of an object

5.7 Write the symbols for $\frac{1}{2}$ and $\frac{1}{4}$

5.0 Fractions (Term 2)

5.1 As term 1

5.2 As term 1

5.3 As term 1

5.4 Partition of sets of objects into quarters

5.5 Show $\frac{1}{2}$ or $\frac{1}{4}$ of a given region by shading

5.0 Fractions (Term 3)

5.1 As term 1 and 2

5.2 As terms 1 and 2

5.3 Divide objects regions/sets in halves and quarters

5.4 As 5.5 (term 2) plus folding

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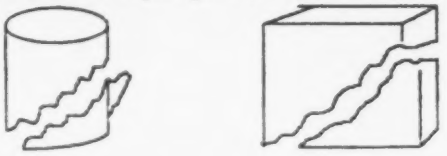
Introducing Fractions

An interesting and visual way for young children to explore the concept of dividing a whole into parts is to draw an object (or cut out a picture) and divide it into pieces (it is not necessary for these to be equal parts).

eg. 

If you can make lots of these then the children could work I groups and match up the pairs.

Similarly tear newspapers into squares and rectangles and give out pieces to the children. Let the children tear each piece into 2 separate pieces then put them back together to make a whole.

Repeat by tearing into 4 separate pieces and put them back to make a whole. (Repeat with 3, 5, 6 pieces etc.). This activity gives the young child 'hands-on' experience of the concept of dividing a whole into parts.

From these activities move on to introduce the terms 'half', 'quarter', etc. and the concept of equal parts.

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Fractions

Core Curriculum: 5.0, Fractions

Age Range: 12

Group Size: Individual

Objectives:

To enable students to recognise fractional parts of objects - half and quarter only - and to divide objects into halves and quarters.

Resources:

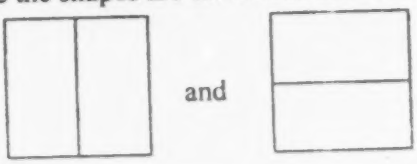
Paper and pencil

Previous Knowledge:

None

Task:

1. Introduce the concept of half and quarter by drawing shapes (square, rectangle, circle, etc.) and dividing them into fractional parts - half and quarter. Ensure the shapes are divided in different orientations, e.g.



2. Use words plus fractional representation, $\frac{1}{2}$ = half

   and introduce the concept that

   $\frac{1}{2} + \frac{1}{2} = 1$ whole, $\frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} = 1$ whole

   and also that $\frac{1}{4} + \frac{1}{4} = \frac{1}{2}$

3. Ask students to draw the shape and shade in a given fractional part.

4. Give out bottle tops, straws, etc. and ask students to divide the group into halves and quarters.

Important Points:

This work is essentially practical, involving drawing and shading. There is very little of what is often recognised as formal maths. However, valuable concepts are introduced.

Further Activity:

If time is available this topic lends itself to some art work which links to the work on shapes. Give students templates of squares, rectangles, etc. Once they have drawn the shape they can divide into fractional parts and colour.

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Other publications in this series include:

Maths and Science

1. A Practical Workbook for CXC Biology
2. Data Analysis Questions for Science Subjects. A Resource Booklet
3. Exercises and Activities in Basic Number Work
4. Fractions. Activities and Exercises for Teaching Fractions in Secondary Schools
5. Lower School Maths. Lesson Plans and Activities for Ages 7 -9 Years.
6. Maths and Science Booklet
7. Teaching Directed Numbers at Secondary School Level
8. Teachers' Resource Material for Integrated Science. Ideas for Teaching Integrated Science in Secondary Schools.
9. Upper School Maths Lesson Plans and Activities for Ages 9 -11 Years

Special Needs

10. An Introduction to Children with Special Needs for Teachers in Mainstream Education
11. The Alpha Centre: A Special School for Special Children. A Curriculum Checklist for Special Educational Needs.

English Language and Literacy

12. Language and Learning. A Practical Guide to Help with Planning your Early Childhood Programme.
13. Promoting Reading and Library Use in your School: A Resource Pack.
14. Strategies for Improving Language Across the Curriculum. Ideas and Activities for Every Classroom.
15. Your School Library. How it Works and How to Keep it Working.

Other

16. Beekeeping. A practical Guide to Beekeeping.
17. Caribbean Copy Art. A Resource Book for Teachers to Copy.
18. Methodology in Music Education.
19. Organising Workshops. A Practical Guide.

Many of these publications derive from projects or workshops funded through **VSO's Community Project Scheme** - an initiative also funded by grant from British Development Division, Caribbean.